

DEPARTMENT OF TRANSPORTATION



**COAST GUARD**

**OCEANOGRAPHIC OBSERVATIONS**  
**NORTH ATLANTIC**  
**OCEAN STATION DELTA**

**27 August 1967 - 25 August 1968**

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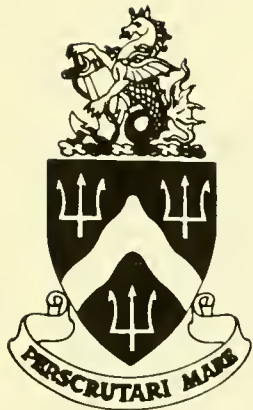
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**No. CG 373-58**

**NORTH ATLANTIC**  
**OCEAN STATION DELTA**

**27 August 1967 - 25 August 1968**

***R. E. Hammond***



**United States Coast Guard**  
**Oceanographic Unit**  
**Washington, D.C.**





USCGC COOK INLET, a 311 Ft. High Endurance Cutter.



## ABSTRACT

The observed and interpolated temperature and salinity data plus the computed sigma-t, geopotential anomalies, and sound velocities are presented for 202 oceanographic stations occupied during thirteen Coast Guard cruises to Ocean Station DELTA (centered at 44°00'N, 41°00'W) between 27 August 1967 and 25 August 1968. The surface layer (300 m) at OS DELTA is characterized by a complex structure because of the proximity of the North Atlantic Current and seasonal atmospheric variations.







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# OCEANOGRAPHIC OBSERVATIONS NORTH ATLANTIC OCEAN STATION DELTA

27 AUGUST 1967–25 AUGUST 1968

by  
ROBERT E. HAMMOND<sup>1</sup>

## INTRODUCTION

Initial Coast Guard investigations on Ocean Station DELTA (OS DELTA), located at 44°00'N, 41°00'W, began during a one month cruise in April 1963 aboard the USCGC CASCO. Eighty oceanographic stations were taken to determine the spatial or temporal variations of temperature and salinity in the upper 800 meters. McGary and Morse (1964) concluded that the boundaries of several distinct water masses occur near OS DELTA and lead to large horizontal gradients in temperature and salinity distribution.

Experiments were conducted during five three-week cruises by the U.S. Naval Oceanographic Office (June 1962–July 1963) to determine the vertical and horizontal variability of water properties in the immediate vicinity of OS DELTA. Analyses of these data were presented by Corton (1967) in which the water masses at OS DELTA were described as: (1) the surface water mass of Gulf Stream origin which varies in thickness from 475 meters to 800 meters, (2) an intermediate water mass of cold water of subarctic origin (with a small percentage of Mediterranean Water between 800 meters and 1000 meters) which extends to a depth of approximately 1750 meters, (3) a deep mass of North Atlantic Deep Water between 1750 meters and 2750 meters, and (4) a bottom water mass below 2750 meters, distinctive of Newfoundland Basin Water (2.3°–3.0°C, 34.90‰–34.96‰).

The U.S. Coast Guard initiated a continuing series of oceanographic observations at OS DELTA in July 1966. Due to a limited number of deep sea reversing thermometers, these observations were restricted to alternate three-week

cruises during the first twelve months. Husby (1969) reported on the data obtained from 136 oceanographic stations during the period from July 1966 to August 1967; he pointed out significant fluctuations in temperature and salinity caused by changes in the North Atlantic Current near OS DELTA.

This report describes conditions based on 202 oceanographic stations at OS DELTA from 27 August 1967 to 25 August 1968. A summary of oceanographic operations during that period is presented in Table 1. Nansen casts were taken daily during the occupation of OS DELTA unless terminated by weather or other mission responsibilities. In addition, casts using a salinity-temperature-depth sensor system (STD) were conducted on OS DELTA for the first time (6 July to 9 July 1968) by USCGC HAMILTON.

## SAMPLING TECHNIQUES

The location of OS DELTA in relation to the other ocean stations of the world and Standard Section A-3 is shown in figure 1. The bathymetry in the vicinity of OS DELTA is shown in figure 2.

Ocean station vessels attempt to maintain their position within a ten mile square centered on the ocean station, although extenuating circumstances occasionally prevent this. The station position sheets (figs. 3–15) indicate those stations occupied outside the ten mile square.

The sampling program at OS DELTA consisted of daily Nansen bottle casts to a depth of 1,500 m when weather and other operations permitted. The desired sampling depths were surface, 25 m, 50 m, 75 m, 100 m, 150 m, 200 m, 300 m, 400 m, 500 m; 600 m, 800 m, 1,000 m, and 1,500 m. However, the first three cruises during the period covered in this report did not sample at

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TABLE 1.—*Summary of oceanographic operations on Ocean Station.  
DELTA, August 1967–August 1968*

| Vessel                | Dates           | Casts   |      | Average Max.<br>Sampling<br>Depth<br>Shallow Cast | Range of Maximum<br>Sampling Depth |                | NODC<br>Ref.<br>Number | Appendix A<br>Table<br>Number |
|-----------------------|-----------------|---------|------|---|------------------------------------|----------------|------------------------|-------------------------------|
|                       |                 | Shallow | Deep |   | Shallow<br>Cast                    | Deep<br>Cast   |                        |                               |
| USCGC INGHAM          | 8/27–9/16/67    | 18      | 1    | 1501m   | 1144–1866m                         | 3321m          | 31-1158                | I                             |
| USCGC<br>CHINCOTEAGUE | 9/22–10/10/67   | 14      | —    | 1462m   | 997–1621m                          | —              | 31-1171                | II                            |
| USCGC ESCANABA        | 10/12/–11/03/67 | 22      | 1    | 1383m   | 883–1862m                          | 4556m          | 31-1176                | III                           |
| USCGC OWASCO          | 11/30–12/15/67  | 10      | 1    | 1343m   | 992–1671m                          | 4621m          | 31-1184                | IV                            |
| USCGC ABSECON         | 1/13–1/30/68    | 6       | 1    | 1500m   | 1115–1885m                         | 4262m          | 31-1202                | V                             |
| USCGC CASCO           | 2/28–3/19/68    | 17      | 2    | 1475m   | 1100–1660m                         | 4324m<br>3902m | 31-1210                | VI                            |
| USCGC ABSECON         | 3/20–4/8/68     | 9       | —    | 1392m   | 1172–1604m                         | —              | 31-1238                | VII                           |
| USCGC COOK INLET      | 4/14–5/5/68     | 17      | 2    | 1572m   | 1368–1675m                         | 4454m<br>4622m | 31-1241                | VIII                          |
| USCGC DALLAS          | 5/6–5/28/68     | 22      | 1    | 1482m   | 1253–1914m                         | 4190m          | 31-1265                | IX                            |
| USCGC CASTLE<br>ROCK  | 5/31–6/19/68    | 18      | 1    | 1474m   | 660–1786m                          | 4446m          | 31-1269                | X                             |
| USCGC HAMILTON        | 7/6–7/9/68      | 13      | —    | 1500m   | 1500m                              | —              | 31-8042                | XI                            |
| USCGC DALLAS          | 7/13–8/4/68     | 22      | 1    | 1417m   | 1283–1613m                         | 4590m          | 31-1339                | XII                           |
| USCGC COOK INLET      | 8/5–8/25/68     | 14      | 1    | 1511m   | 1478–1652m                         | 4211m          | 31-1316                | XIII                          |

75 m; instead they included a 1,250 m sample. For deep casts, the desired depths were 2,000 m, 2,500 m, 3,000 m, 3,500 m, 4,000 m, and 150 m and 50 m off the bottom. Attempts were made to complete at least one deep cast during each patrol.

A pair of protected deep sea reversing thermometers was fitted on each Nansen bottle. Four or five bottles at 200 m and below were each fitted with an unprotected thermometer for the thermometric determination of the sampling depths. Field observations of temperature were transmitted via radioteletype to the Coast Guard Oceanographic Unit for real time data processing and quality control. The reductions to *in situ* temperatures were accomplished with the use of a Digital Equipment Corporation PDP-5 computer.

Salinity samples were drawn from each Nansen bottle, and salinity values were determined at sea using an inductive salinometer. Duplicate samples were drawn from the top and bottom bottles of each cast and were analyzed by the Oceanographic Unit for quality control.

Processed temperature and salinity data for

each cruise were submitted to the National Oceanographic Data Center (NODC), Washington, D.C. The interpolated temperatures, salinities, sigma-t values, geopotential anomalies, and sound velocities for the standard depths were computed by NODC and are listed in Tables I through XIII of Appendix A.

## ANALYSIS OF DATA

OS DELTA provides an opportunity to investigate the surface (600 m) effects of a shifting current regime which separates the Subarctic Water mass to the north and the North Atlantic Central Water mass to the south. Prior to discussion of this system, a brief description of the influencing current and water masses is provided.

### *Northern Gulf Stream Extension*

Just off the Tail of the Banks (43°N, 51°W) the eastward flowing Gulf Stream develops large fluctuations in stream position as it migrates northeastward. Iselin (1936) defined these fluctuations as an extension of the Gulf Stream called



the North Atlantic Current. He traced the position of the current by examining the 10°C isothermal surface (fig. 16). The steep gradients east of 50°W define the North Atlantic Current.

Dietrich (1964) continued this analysis and called the geographic location of the 10°C isotherm at 200 m the North Atlantic Current boundary (Polar Front). This boundary separates cold, low-saline, subpolar water and warm, high-saline, subtropical water. The variations in the position of the front are shown in figure 17 (Dietrich, 1964). Fluctuations of the North Atlantic Current as determined by maximum cross current temperature gradients are shown in figure 18 (Fuglister and Worthington, 1951).

Information provided by Boisvert (1967) indicates that the North Atlantic Current is a rather sluggish and slow moving regime (<1.0 kt) subject to the effects of shallow, wind driven surface movement known as North Atlantic Drift (Stommel, 1966).

Due to wide seasonal variations and the limited amount of available data for the North Atlantic Current, exact limits of temperature and salinity distribution cannot be clearly described. However, Corton (1967) indicates that a high salinity core (35.6‰–36.2‰) exists at approximately 100 m. Temperatures at this depth vary between 16° and 17°C (Pub. No. 700, 1967).

### Contributing Water Masses

The North Atlantic Current provides a dynamic boundary between two distinct water masses which are displaced and positioned along this boundary as a function of the current velocity and shape of developing meanders. The predominant water mass to the south has been designated North Atlantic Central Water (NACW) (4°–17°C,

35.10‰–36.29‰) (Sverdrup, et al. 1942, Defant, 1961). Corton (1967) has estimated this water to extend from the surface to approximately 600 m in the vicinity of OS DELTA. Subarctic Water (3°–5°C, 34.7‰–34.9‰) to the north of this boundary is the dominant water mass from the surface to 1,750 m (Corton, 1967). However the observed characteristics at OS DELTA (8°–23°C, 35.10‰–36.70‰) indicate a regime whose physical properties are, at times, influenced by the North Atlantic Current. This influence was especially noticeable during the summer months when the wind mixed layer was at a minimum thickness.

The intermediate water at OS DELTA (600–1,750 m) was formed by the mixing of Subarctic Water with the more saline water transported by a northwestern fan of the Mediterranean effluent. The lower limit of this intermediate water mass can be identified by a salinity of 34.92‰ and has been estimated to be at a depth of 1,750 m in the vicinity of OS DELTA (Corton, 1967).

Table 2 summarizes and compares the various water masses found in the vicinity of OS DELTA. T-S diagrams of the data collected at OS DELTA emphasize these water masses and point out the effects of seasonal variation (figs. 19–23).

### Seasonal Variations

The observations made at OS DELTA indicated the existence of a seasonal upper layer separated from the non-seasonal layer at about 300 m as can be seen from the vertical distribution of temperature (figs. 26–38). A permanent thermocline (approximately 1.5°C/100 m) existed from a depth of 300 m to 800 m. The temperature then decreased from 6°C at 800 m through the

TABLE 2.—Description of water masses in the vicinity of Ocean Station DELTA.

| Water Type              | Temperature Range (°C) | Salinity Range (‰) |
|-------------------------|------------------------|--------------------|
| Subarctic*              | 3–5                    | 34.7–34.9          |
| North Atlantic Central* | 4–17                   | 35.1–36.3          |
| North Atlantic Deep*    | 3–4                    | 34.9–35.0          |
| North Atlantic Bottom*  | 1–3                    | 34.8–34.9          |
| OSD upper 800 m**       | 8–19                   | 35.1–36.7          |

\*According to Defant (1961, Table 83)

\*\*From observed data



intermediate water mass to  $4^{\circ}\text{C} \pm 0.3^{\circ}\text{C}$ . A seasonal isothermal layer was present from late October through early May (figs. 28–33), with a maximum depth of 300 m observed in early March. This isothermal feature was caused by the erosion and deepening of the seasonal thermocline which was influenced by increased convection due to cooling temperatures and wind mixing. A time-series plot is presented in figure 24 in support of the discussions of temporal variations in temperature.

The upper seasonal layer displayed maximum surface temperatures and stratification during the autumnal equinox; the minimum temperatures and the deepest thermocline erosion (isothermal layer) coincided with the vernal equinox.

The salinity structure (fig. 25) of the upper seasonal zone followed a trend similar to that of the temperature. An isohaline layer developed in December, with a maximum depth of 300 m occurring in early March, and was followed by the establishment of a halocline in May. This seasonal halocline blended into the permanent halocline which extended down to about 700 m. The intermediate water (600–1,750 m) maintained a nearly constant salinity range of 34.92‰–35.00‰.

The vertical distribution of salinity for each cruise is shown in figures 39–51. The salinity maximum located at 100 m from August to December (figs. 39–42, 51 and Table 3) may have been an intrusion of the North Atlantic Current. The greater mixing forces that occurred during the months from January to May eroded this prominent feature into an isohaline layer (to

approximately 300m) with only an occasional maximum at greater depths. This seems to indicate that the mixing processes were of sufficient magnitude to destroy any changes that could be brought about by intrusions from the North Atlantic Current.

Table 3 summarizes the variations of the predominant characteristics of salinity in the upper 800 m at OS DELTA.

### *Description of Observed Processes*

Observations made in a limited geographical area over a relatively short period (one year) do not lend themselves to a comprehensive analysis of physical processes. However, it was possible to observe changes in physical properties at OS DELTA due to the variation in position and intensity of the North Atlantic Current.

Comparison of the physical properties of OS DELTA was made with those observed for Standard Section A–3 (SSA3) (Robe, 1971) in an attempt to determine the geographic relation between OS DELTA and the Polar Front. Only three dates were comparable (due to limited observations on the eastern end of SSA3): 4 November 1967, 3 February 1968, and 5 August 1968. During those times the Front was located 255, 285, and 200 nautical miles, respectively, west of OS DELTA.

It would be difficult to make an estimate of the Front's distance to the north of OS DELTA, due to a lack of data in that direction. However, at no time did the observed water characteristics indicate that the Front had traveled southward through OS DELTA. Passage of the Front or

TABLE 3.—*Summary of the variations of the predominant characteristics of salinity in the upper 800 meters at Ocean Station DELTA, 27 August 1967 to 25 August 1968.*

| Inclusive<br>Cast Dates | Surface<br>Salinity<br>Range (‰) | Isohaline<br>Layer<br>Depth (m) | Salinity Maximum<br>Salinity<br>(‰) | Depth<br>(m) | Salinity Minimum<br>Salinity<br>(‰) | Depth<br>(m) |
|-------------------------|----------------------------------|---------------------------------|-------------------------------------|--------------|-------------------------------------|--------------|
| 8/27–9/16/67            | 35.09–36.31                      | NONE                            | 36.54                               | 100          | 35.00–35.05                         | 700–800      |
| 9/22–10/10/67           | 34.35–36.20                      | NONE                            | 36.38, 36.39                        | 50, 100      | 34.72                               | 570          |
| 10/12–11/3/67           | 35.00–36.14                      | 20                              | 36.45                               | 90–120       | 34.77                               | 540          |
| 11/30–12/15/67          | 35.72–35.90                      | 80                              | 36.32                               | 110          | 35.00, 35.04                        | 760, 810     |
| 1/13–1/30/68            | 35.87–36.13                      | 200                             | 36.13                               | 0–200        | 34.97                               | 780          |
| 2/28–3/19/68            | 35.79–36.02                      | 280                             | 36.02, 36.02                        | 0, 300       | 35.00, 34.97                        | 660, 790     |
| 3/20–4/8/68             | 35.87–36.04                      | 100                             | 36.03, 36.04                        | 0, 40        | 34.92                               | 670          |
| 4/14–5/5/68             | 35.80–36.19                      | 100                             | 36.17, 36.19                        | 0, 60        | 34.95, 34.94                        | 660, 770     |
| 5/6–5/28/68             | 35.80–36.11                      | 20–70                           | 36.11, 36.13                        | 0, 50        | 34.93                               | 670          |
| 5/31–6/19/68            | 35.87–36.13                      | 70–100                          | 36.16                               | 45           | 34.96                               | 690–800      |
| 7/6–7/9/68*             | 33.26–35.48                      | NONE                            | 36.22, 36.24                        | 30, 70       | 33.26                               | Surface      |
|                         |                                  |                                 |                                     |              | 34.81                               | 670          |
| 7/13–8/4/68             | 34.36–36.28                      | NONE                            | 36.36                               | 90           | 34.66                               | 550          |
| 8/5–8/25/68             | 34.15–36.03                      | NONE                            | 36.43                               | 75           | 34.85                               | 610          |

\*Casts during this period were taken for the first time at OSD with an STD.



traverse of a large eddy would be marked by a sudden decrease of temperature and salinity due to the influx of Subarctic Water.

The influence of the North Atlantic Current, as it varies in strength and distance from OS DELTA, can be monitored by a change in the physical properties of the water in the vicinity of OS DELTA. Data gathered from stations occupied during the period covered by this report have been investigated for significant temporal variations as an indication of the influence of the North Atlantic Current.

Attention is directed to the USCGC HAM-ILTON cruise of 6–9 July 1968 (figs. 36 and 49) and specifically to stations 5, 9, and 13, separated by intervals of 23.5 and 30.2 hours. Station five showed the reduced influence of North Atlantic Central Water (NACW), possibly due to an increase in intensity and/or a southeast movement of the North Atlantic Current. An apparent return of NACW was registered during occupation of station 13.

Observations made during the cruise of the USCGC INGHAM (figs. 26 and 39) at stations 2, 3, and 4 showed temperature and salinity values indicative of NACW. Station 7, four days later, indicated temperature and salinity minima in the upper 800 meters as the Polar Front shifted position towards OS DELTA.

Similar distributions of properties were observed during the September 1967 cruise of USCGC CHINCOTEAGUE (figs. 27 and 40), May 1968 cruise of USCGC DALLAS (figs. 34 and 47), March 1968 cruise of USCGC ABSECON (figs. 32 and 45), and July 1968 cruise of USCGC DALLAS (figs. 37 and 50).

Due to relatively few "off station" casts, little can be evaluated concerning horizontal variations in physical properties. Separations were limited to 70 nautical miles in latitude with corresponding temperature and salinity differences of  $1.0^{\circ}\text{C}$  and  $0.5\text{‰}$  in the upper 50 m. Variations in temperature and salinity were not observed with longitudinal differences of up to 90 nautical miles.

The physical properties observed at OS DELTA and those of the surrounding water masses can best be compared by examining the observations made at OS DELTA, OS ECHO, OS CHARLIE, and selected stations along SSA3 (fig. 1). Observations at OS CHARLIE describe the water masses peculiar to the subarctic; properties observed at OS ECHO detail NACW characteristics, and observations along SSA3 provide insight into properties unique to the North Atlantic Current.

Comparison of temperature and salinity vertical distributions at the above locations was made for February and August 1968 (figs. 52 and 53).

Data from SSA3 and OS DELTA exhibit isohaline/isothermal layers down to about 100 m during February, with the greater depths displaying similar trends in their distributions. The nearly uniform distribution of Subarctic Water (especially at OS DELTA, OS CHARLIE, and SSA3) below 800 m becomes clear and is supported by the close coincidence of temperature and salinity vertical distributions.

During August, observations at SSA3 and OS DELTA showed similar characteristics of temperature and salinity versus depth, with the formation of definite thermoclines and haloclines down to 100 m. As is typical of subarctic zones, salinity increases slightly with depth at OS DELTA and SSA3, but maximum salinities are observed at the surface of OS ECHO (subtropic location).

## REFERENCES

- Boisvert, W. E. (1967) Major currents in the North and South Atlantic Oceans between  $64^{\circ}\text{N}$  and  $60^{\circ}\text{S}$ . U.S. Naval Oceanographic Office Technical Report No. 193, 92 pp.
- Corton, E. L. (1967) Variations in the vertical water structure at OWS DELTA ( $44^{\circ}\text{N}$ ,  $41^{\circ}\text{W}$ ). U.S. Naval Oceanographic Office Informal Report No. 67-28, 24 pp.
- Defant, A. (1961) *Physical Oceanography* Vol. I, The MacMillan Company, New York, 729 pp.
- Dietrich, G. (1964) *Oceanic Polar Front Survey in the North Atlantic*. Research in Geophysics, MIT Press, Cambridge, 595 pp.
- Fuglister, F. C. and L. V. Worthington (1951) Some results of a multiple ship survey of the Gulf Stream. Collected reprints WHOI, contribution No. 548, 14 pp.
- Husby, D. M. (1969) Oceanographic observations, North Atlantic Ocean Station DELTA,  $44^{\circ}\text{N}$ ,  $41^{\circ}\text{W}$ , July 1966–August 1967. U.S. Coast Guard Oceanographic Report No. 23, CG-373-23.
- Iselin, C. O'D. (1936) A study of the circulation of the Western North Atlantic. *Papers in Phys. Oceanog. and Met.* MIT and WHOI, Vol. IV, No. 4.
- McGary, J. W. and R. M. Morse (1964) Observations at North Atlantic Ocean Station DELTA, March–April 1963. U.S. Coast Guard Oceanographic Report No. 3, CG-373-3.
- Robe, R. Q. (1971) Oceanographic observations North Atlantic Standard Monitoring Sections A-1, A-2, A-3, A-4, 1967–1968. U.S. Coast Guard Oceanographic Report No. 43, CG-373-43.
- Stommel, H. (1966) *The Gulf Stream, a physical and dynamical description*. University of California Press, Berkeley and Los Angeles, 248 pp.
- Sverdrup, H. U., M. W. Johnson, and R. H. Fleming (1942) *The Oceans: Their Chemistry, Physics and General Biology*. Prentice-Hall, New York, 1087 pp.
- U.S. Naval Oceanographic Office (1967) *Oceanographic Atlas of the North Atlantic Ocean, Section II Physical Properties*. Publication No. 700, pt. 2, 300 pp.



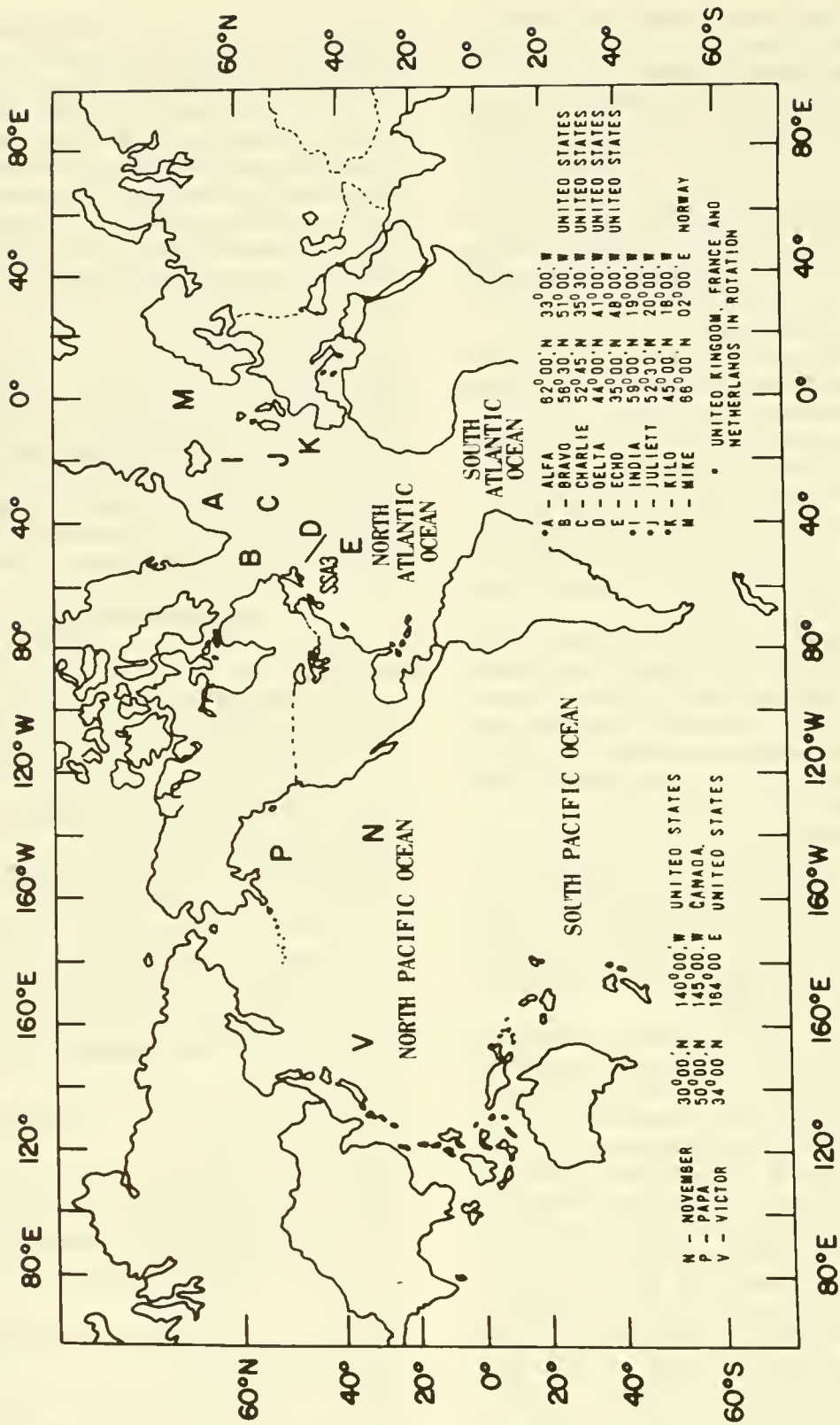


FIGURE 1. Chart of the ocean stations of the world and Standard Section A-3 (SSA3).



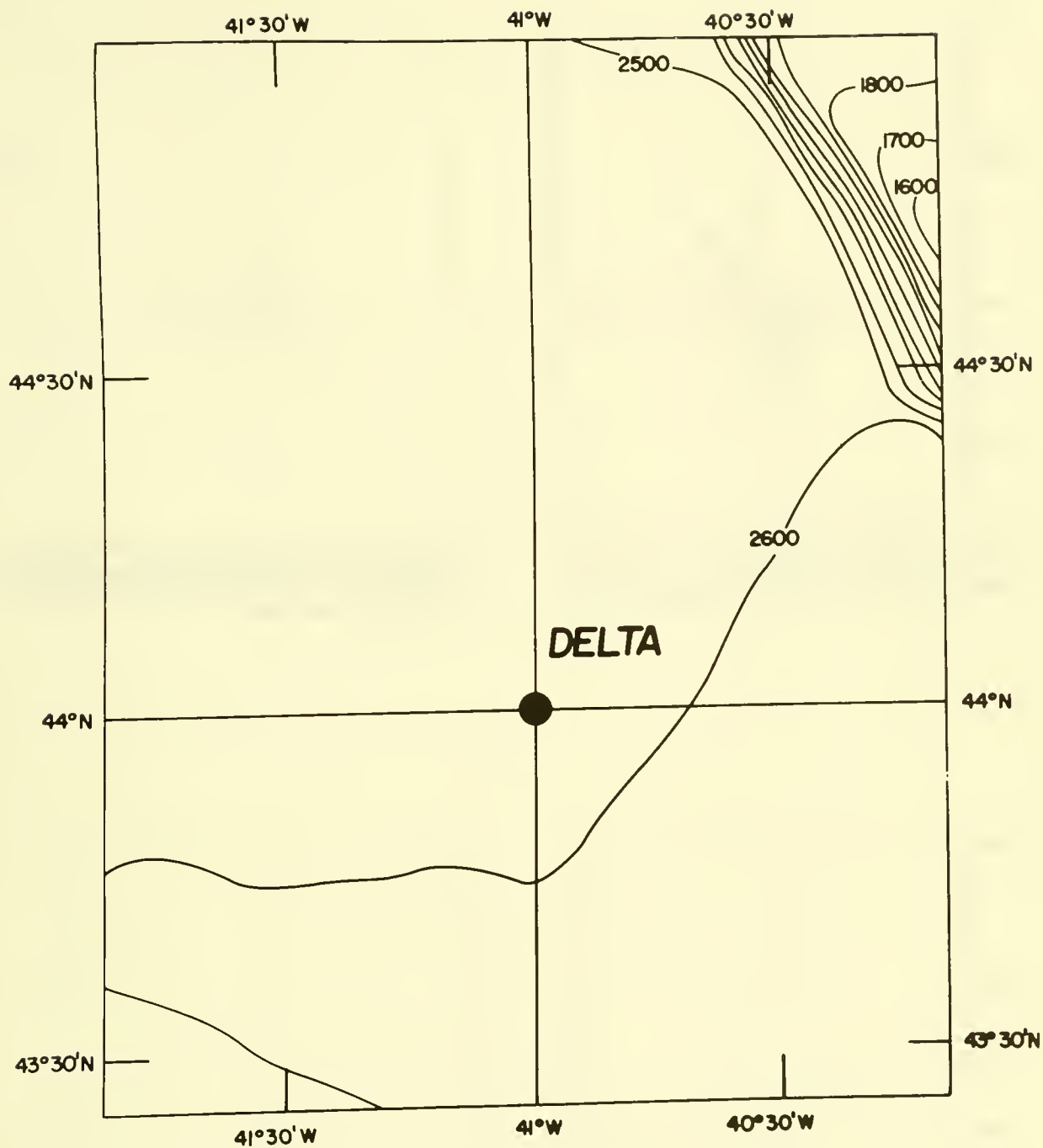


FIGURE 2. Bathymetry (in fathoms) of Ocean Station DELTA (from HO chart BC0508N).



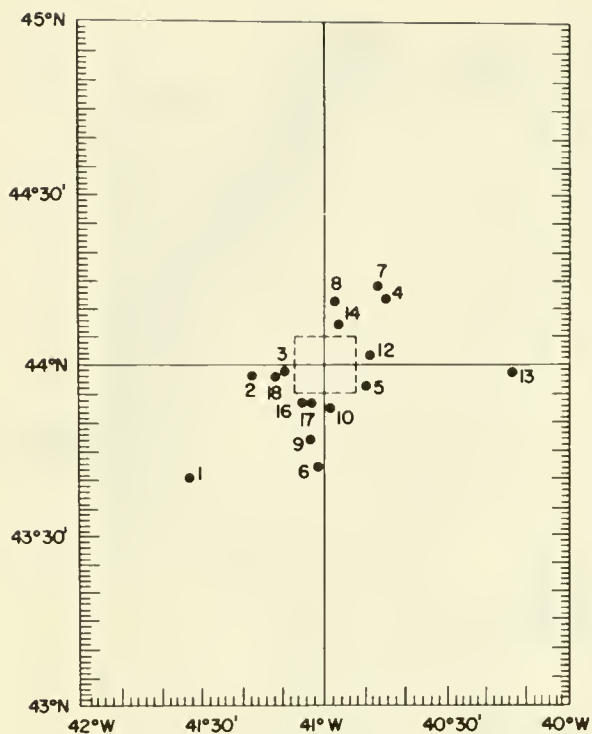


FIGURE 3. Positions of oceanographic stations taken by USCGC INGHAM at Ocean Station DELTA, 27 August–16 September 1967. Stations taken inside the 10-mile-square central grid are not shown.

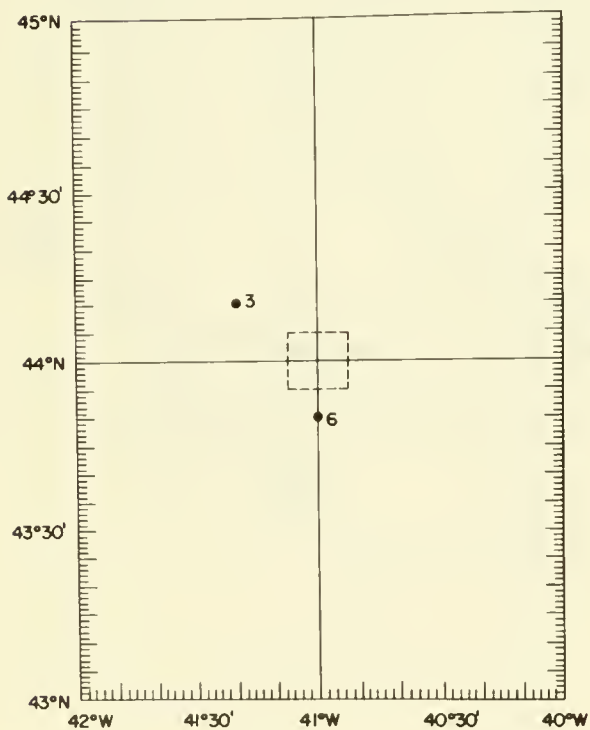


FIGURE 4. Positions of oceanographic stations taken by USCGC CHINCOTEAGUE at Ocean Station DELTA, 22 September–10 October 1967. Stations taken inside the 10-mile-square central grid are not shown.



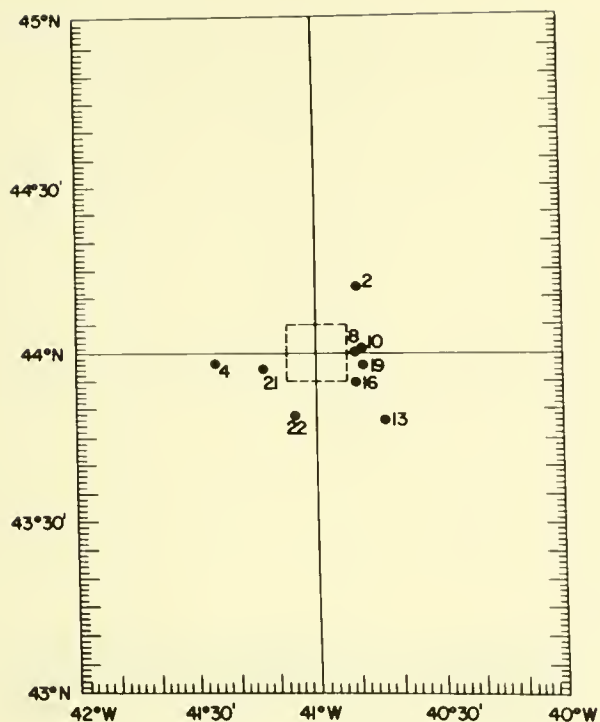


FIGURE 5. Positions of oceanographic stations taken by USCGC ESCANABA at Ocean Station DELTA, 12 October–3 November 1967. Stations taken inside the 10-mile-square central grid are not shown.

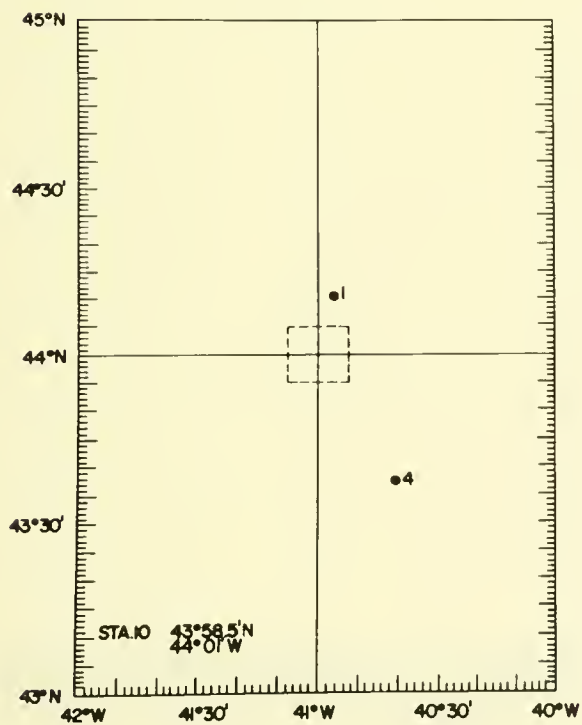


FIGURE 6. Positions of oceanographic stations taken by USCGC OWASCO at Ocean Station DELTA, 30 November–15 December 1967. Stations taken inside the 10-mile-square central grid are not shown.



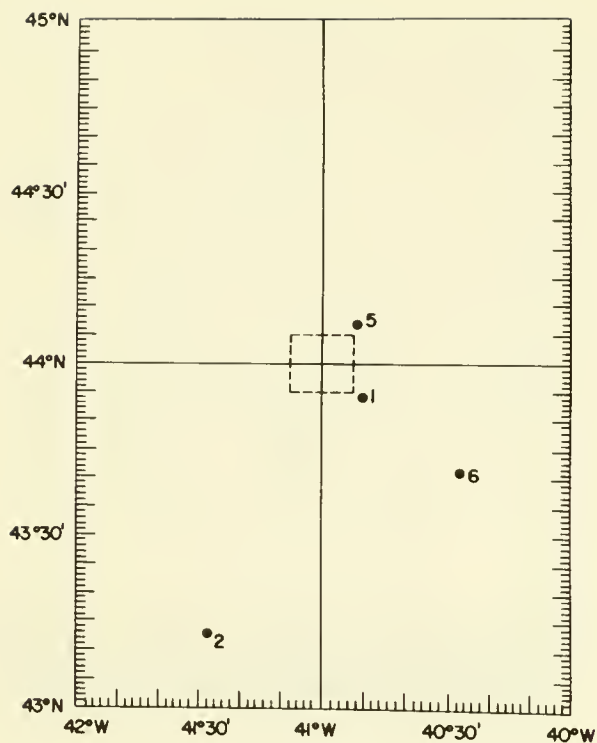


FIGURE 7. Positions of oceanographic stations taken by USCGC ABSECON at Ocean Station DELTA, 13 January-30 January 1968. Stations taken inside the 10-mile-square central grid are not shown.

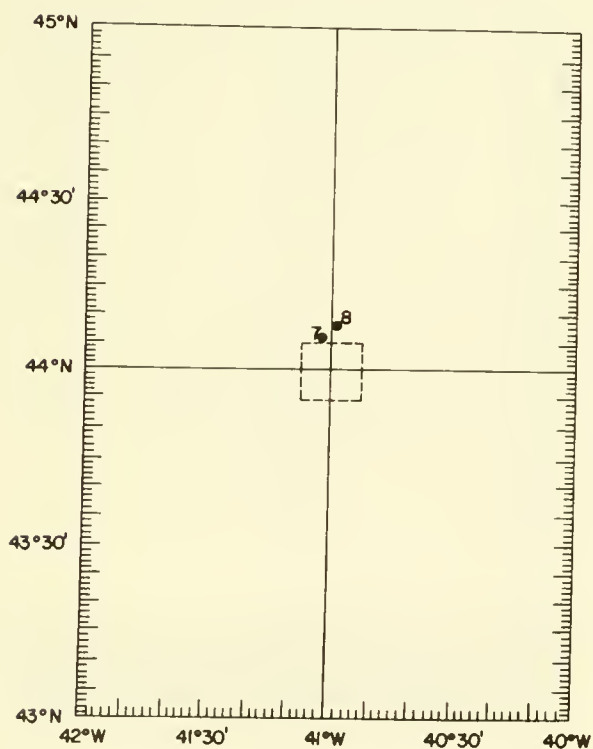


FIGURE 8. Positions of oceanographic stations taken by USCGC CASCO at Ocean Station DELTA, 28 February-19 March 1968. Stations taken inside the 10-mile-square central grid are not shown.



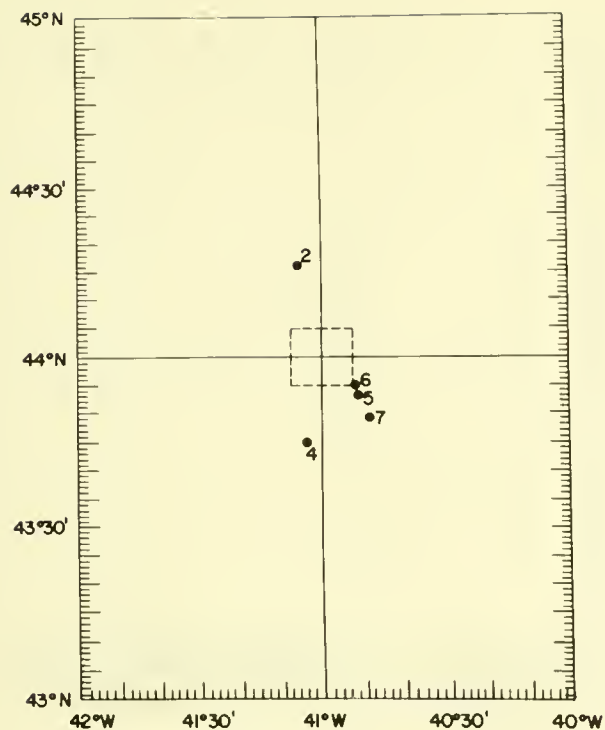


FIGURE 9. Positions of oceanographic stations taken by USCGC ABSECON at Ocean Station DELTA, 20 March-8 April 1968. Stations taken inside the 10-mile-square central grid are not shown.

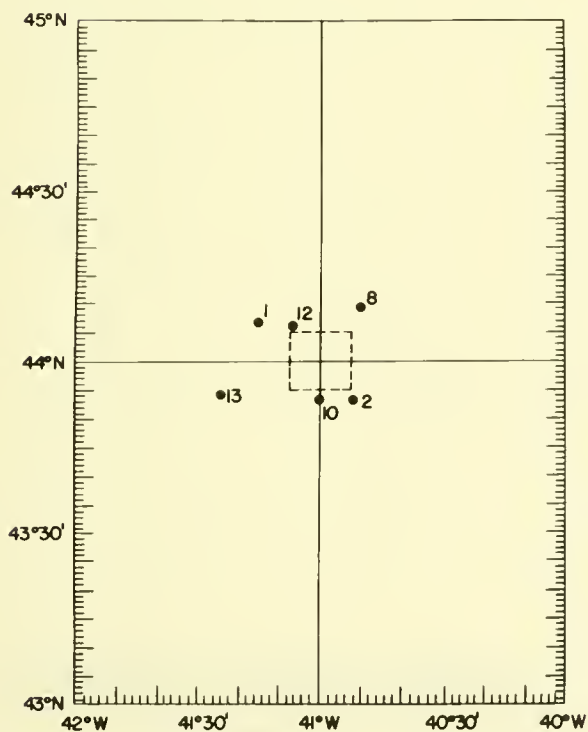


FIGURE 10. Positions of oceanographic stations taken by USCGC COOK INLET at Ocean Station DELTA, 14 April-5 May 1968. Stations taken inside the 10-mile-square central grid are not shown.



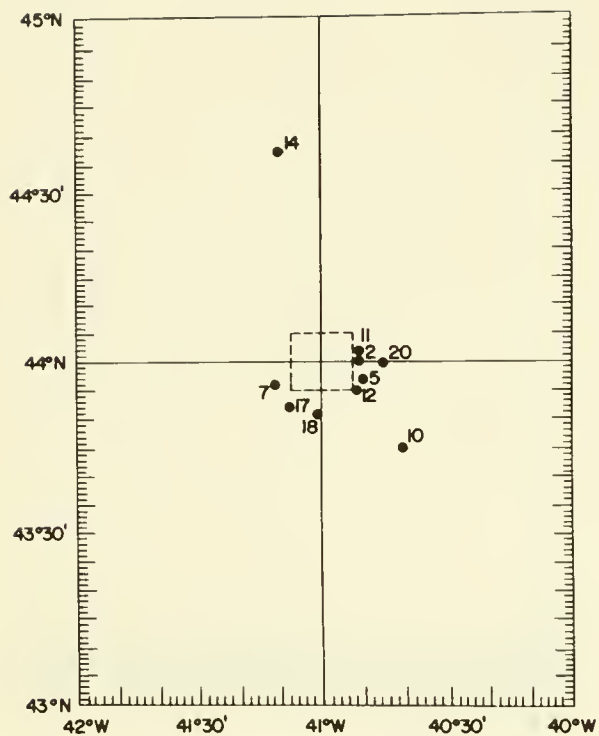


FIGURE 11. Positions of oceanographic stations taken by USCGC DALLAS at Ocean Station DELTA, 6 May-28 May 1968. Stations taken inside the 10-mile-square central grid are not shown.

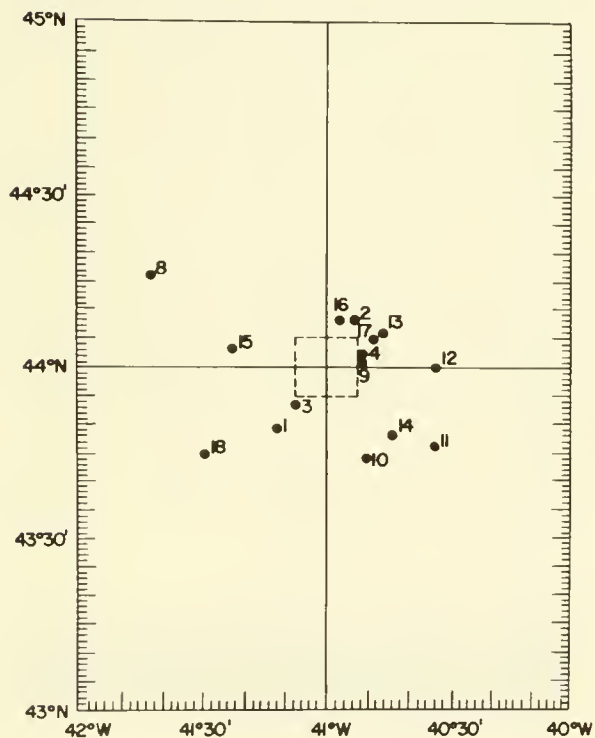


FIGURE 12. Positions of oceanographic stations taken by USCGC CASTLE ROCK at Ocean Station DELTA, 31 May-19 June 1968. Stations taken inside the 10-mile-square central grid are not shown.



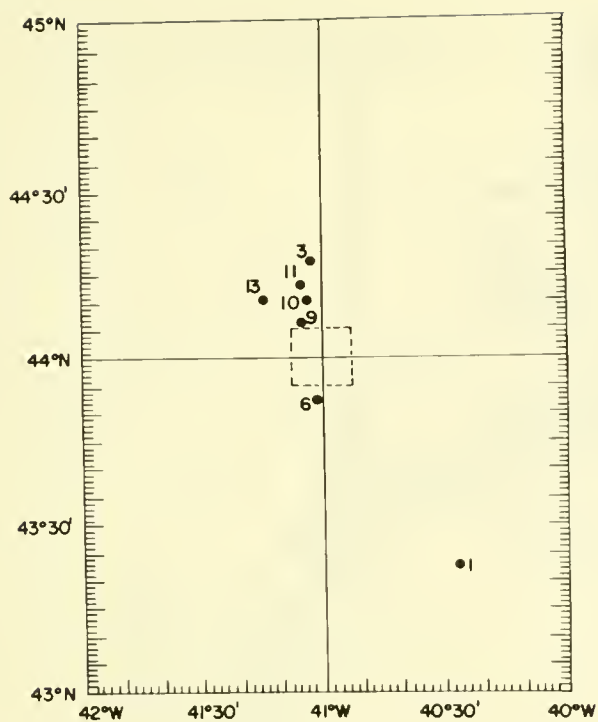


FIGURE 13. Positions of oceanographic stations taken by USCGC HAMILTON at Ocean Station DELTA, 6 July-9 July 1968. Stations taken inside the 10-mile-square central grid are now shown.

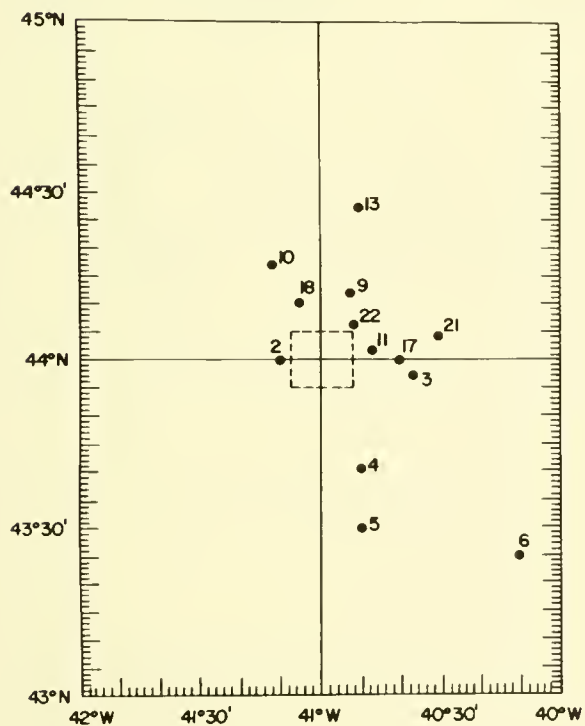


FIGURE 14. Positions of oceanographic stations taken by USCGC DALLAS at Ocean Station DELTA, 13 July-4 August 1968. Stations taken inside the 10-mile-square central grid are not shown.



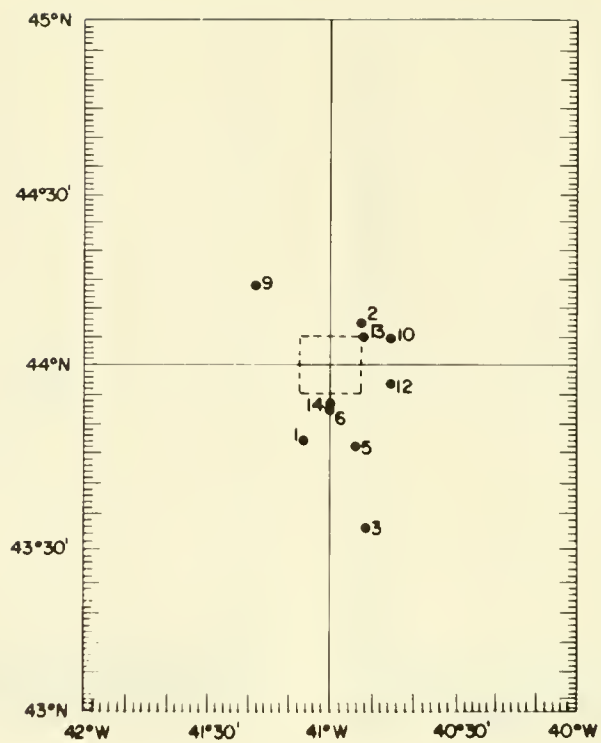


FIGURE 15. Positions of oceanographic stations taken by USCGC COOK INLET at Ocean Station DELTA, 5 August–25 August 1968. Stations taken inside the 10-mile-square central grid are not shown.



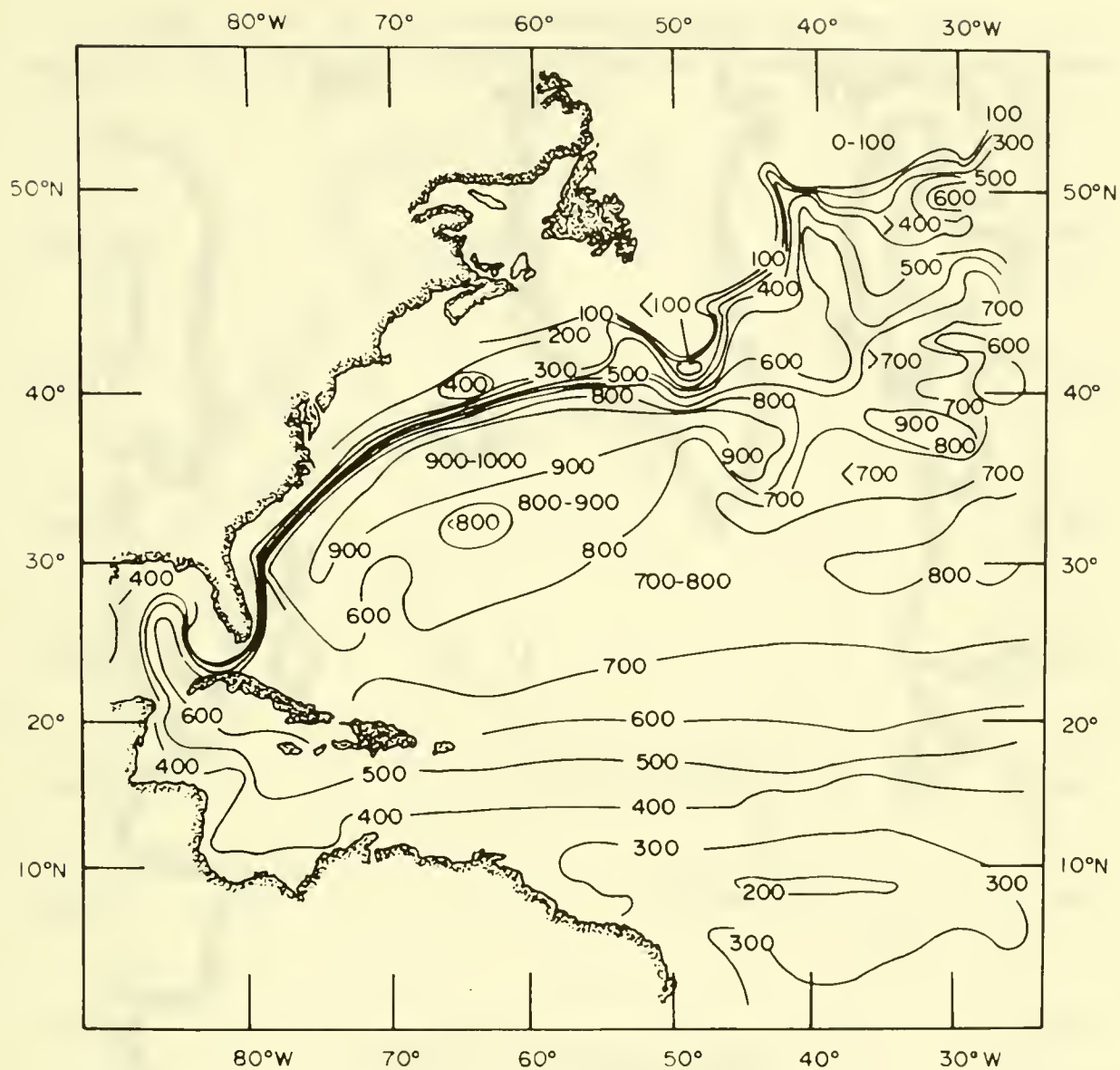


FIGURE 16. Depth of 10°C isothermal surface, according to Iselin (1936, fig. 47). Depths are given in meters.



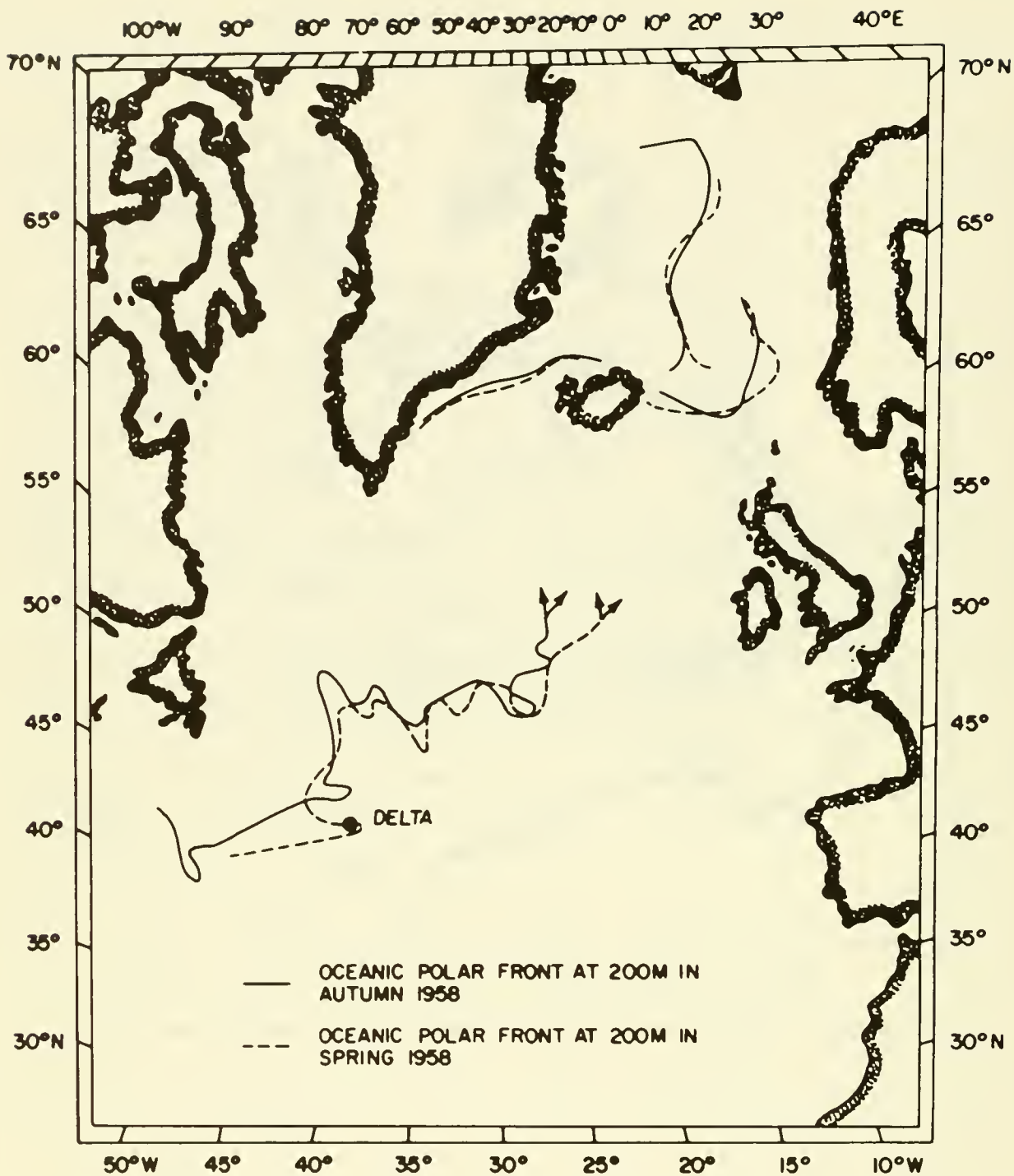


FIGURE 17. The Oceanic Polar Front in the North Atlantic at 200 m depth in autumn and spring 1958, according to Dietrich (1964, fig. 8).



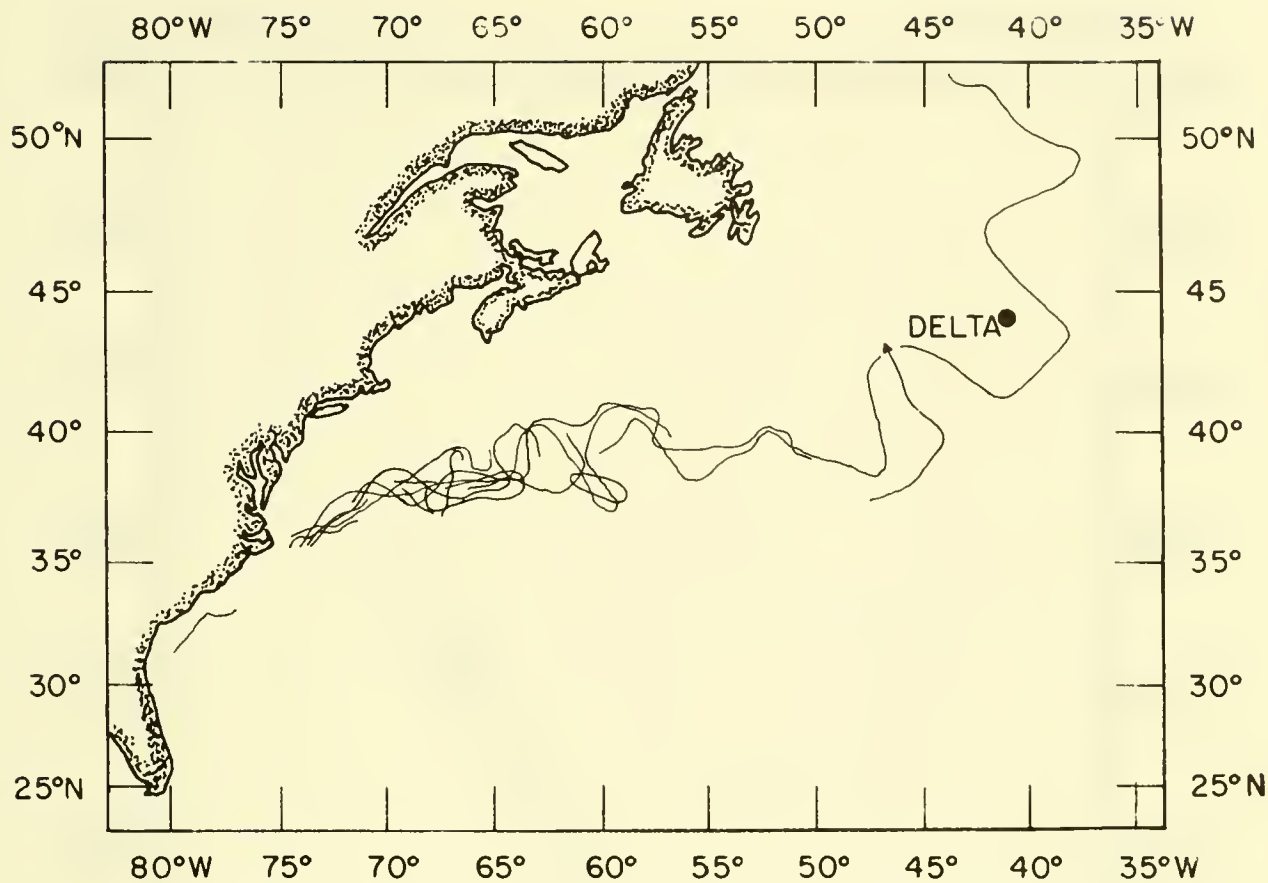


FIGURE 18. Fluctuations of North Atlantic current as determined by maximum cross current temperature gradients (after Fuglister and Worthington, 1951).





FIGURE 19. Temperature-Salinity diagram at Ocean Station DELTA for period 27 August to 3 November 1967.



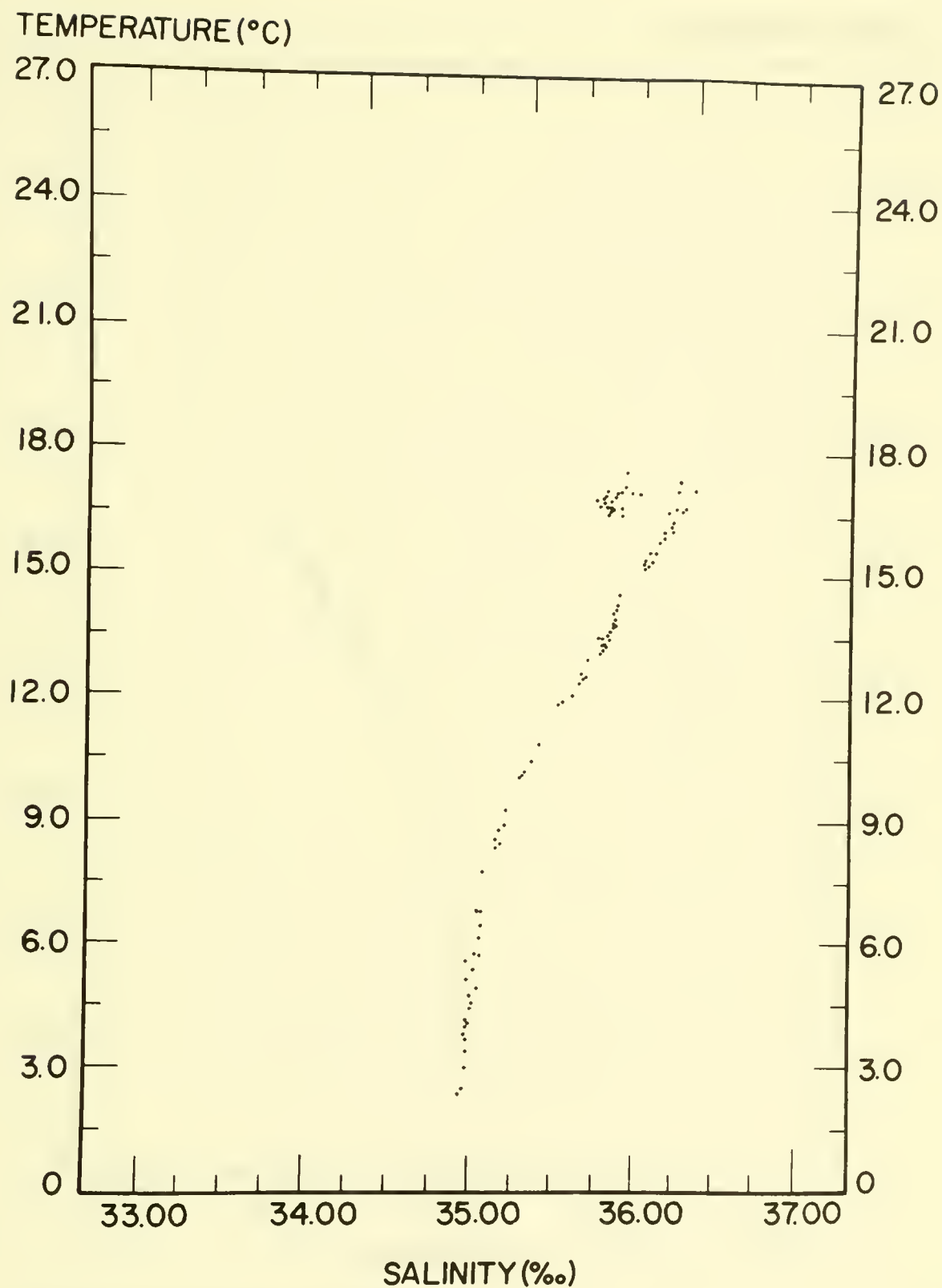


FIGURE 20. Temperature-Salinity diagram at Ocean Station DELTA for period 30 November to 15 December 1967.



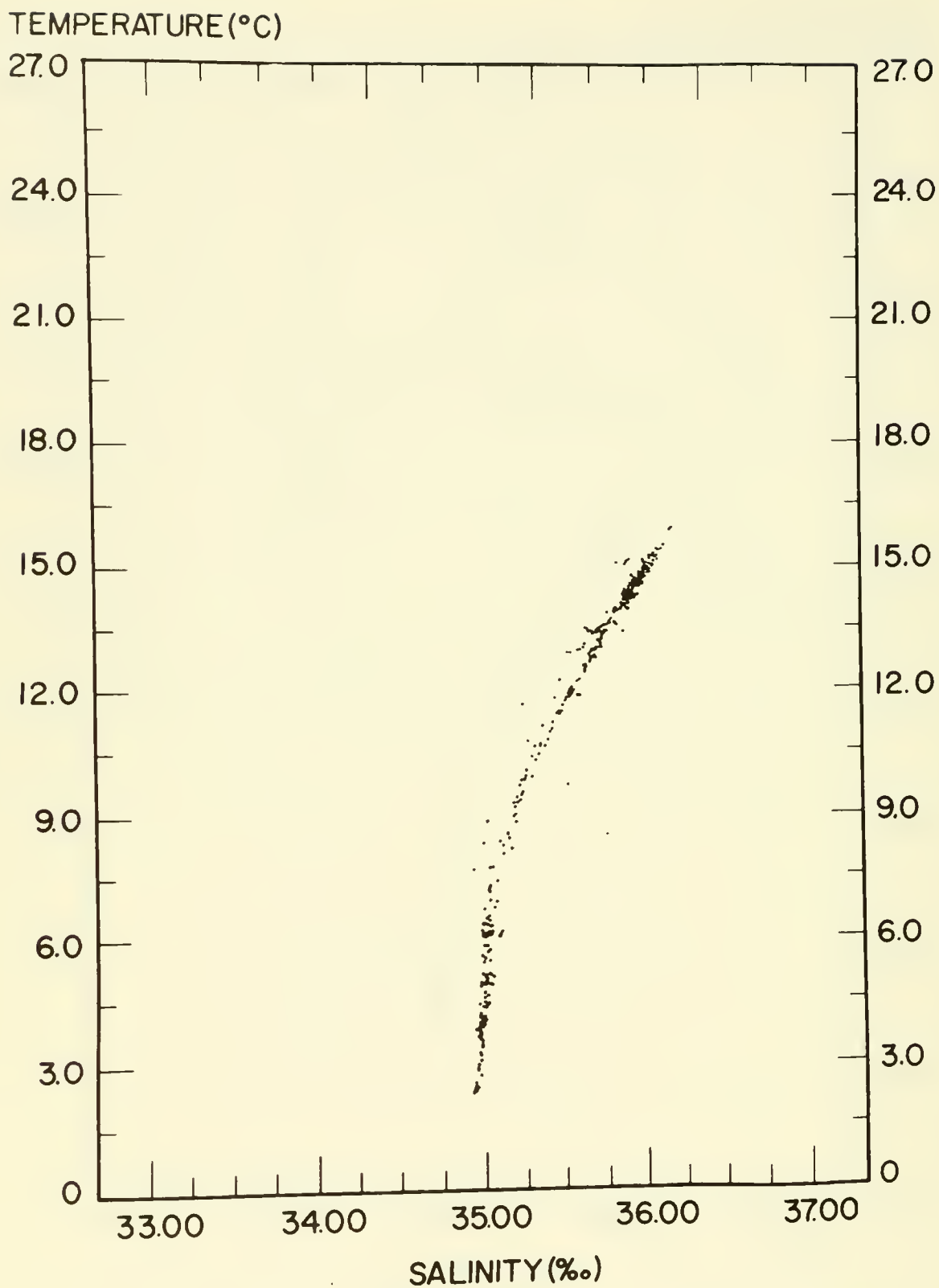


FIGURE 21. Temperature-Salinity diagram at Ocean Station DELTA for period 13 January to 8 April 1968.



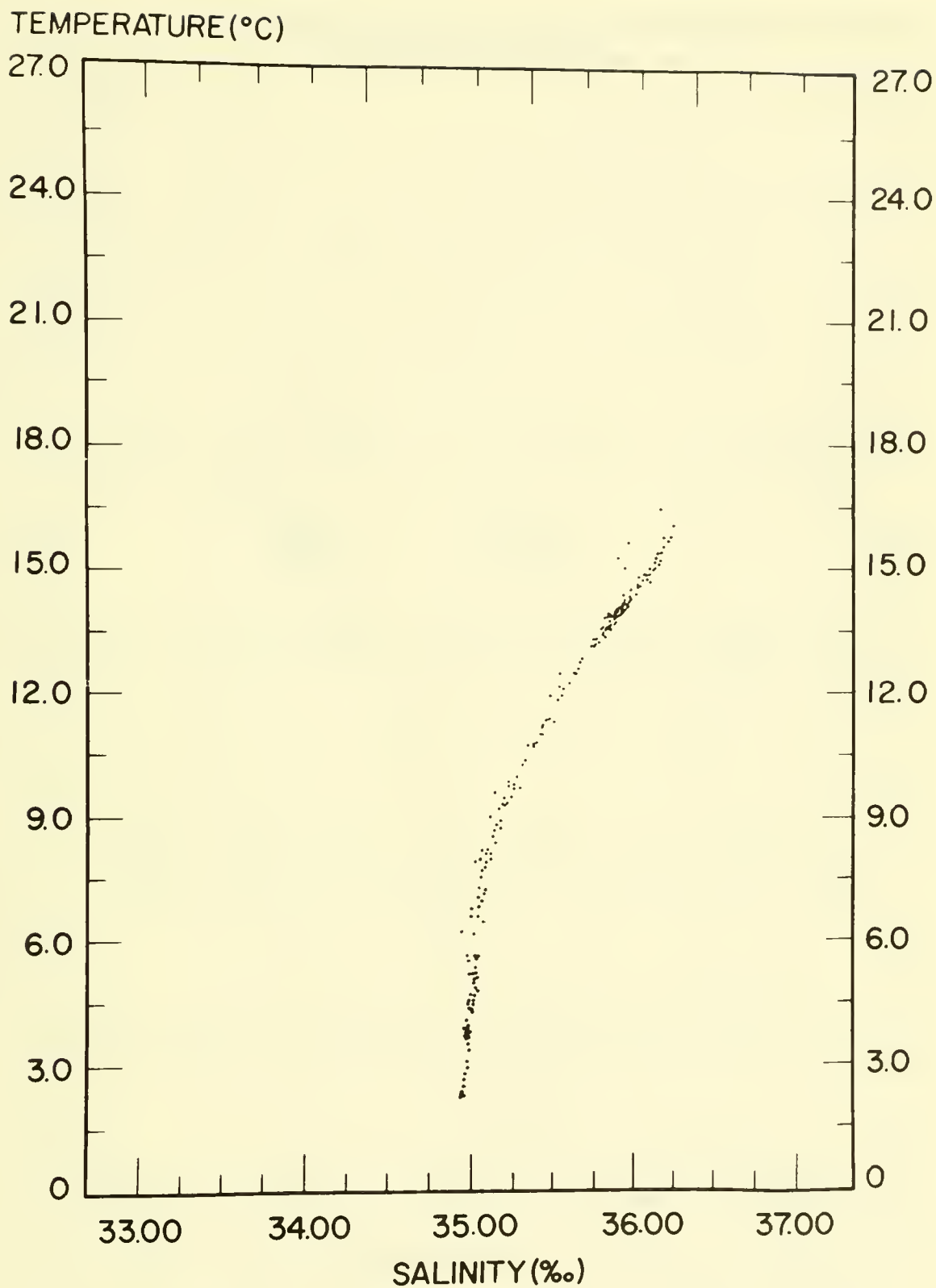


FIGURE 22. Temperature-Salinity diagram at Ocean Station DELTA for period 14 April to 19 June 1968.



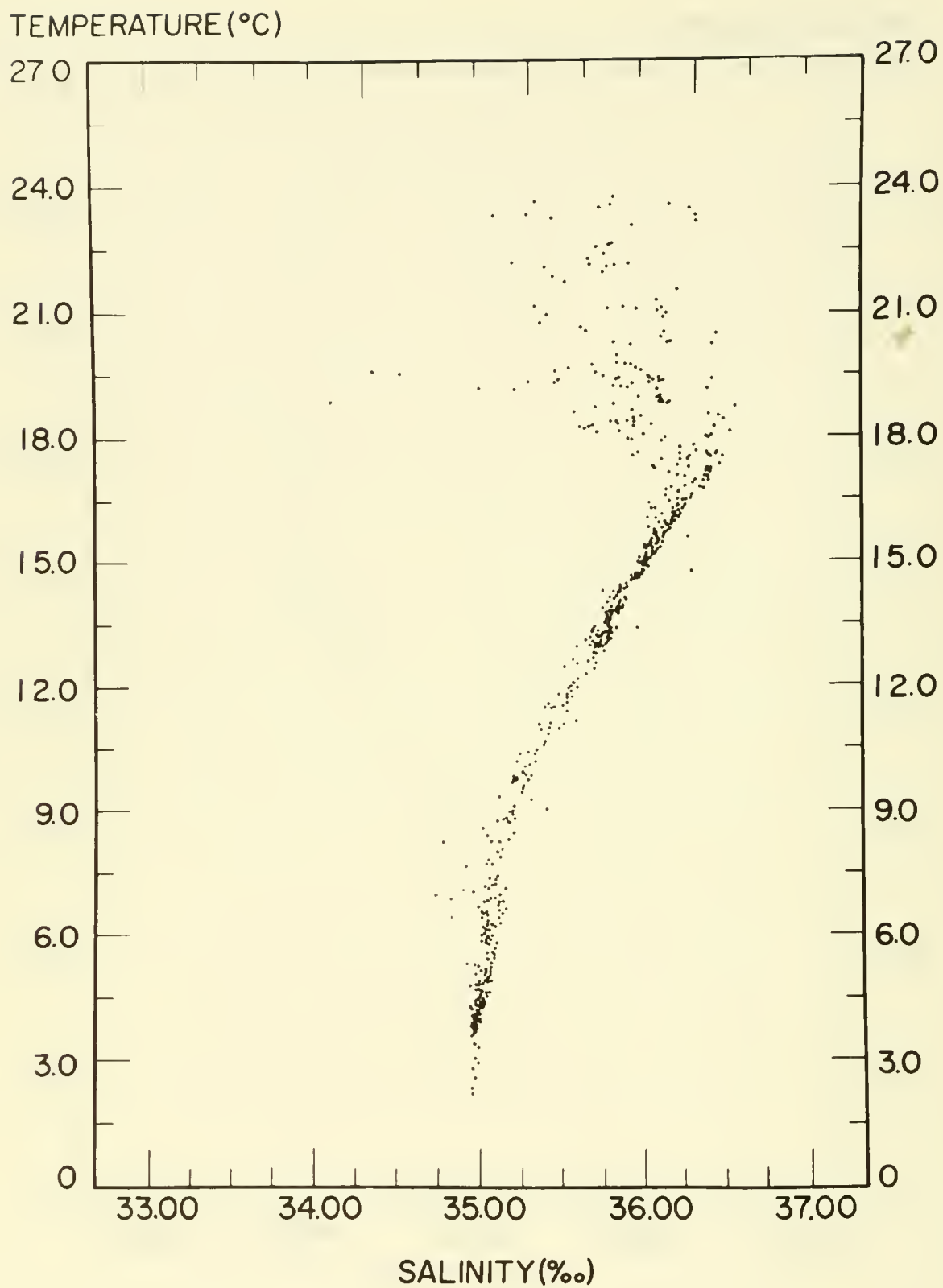


FIGURE 23. Temperature-Salinity diagram at Ocean Station DELTA for period 6 July to 25 August 1968.



# **WATER TEMPERATURE VERSUS TIME AT OCEAN STATION DELTA** **27 AUGUST 1967 - 25 AUGUST 1968**

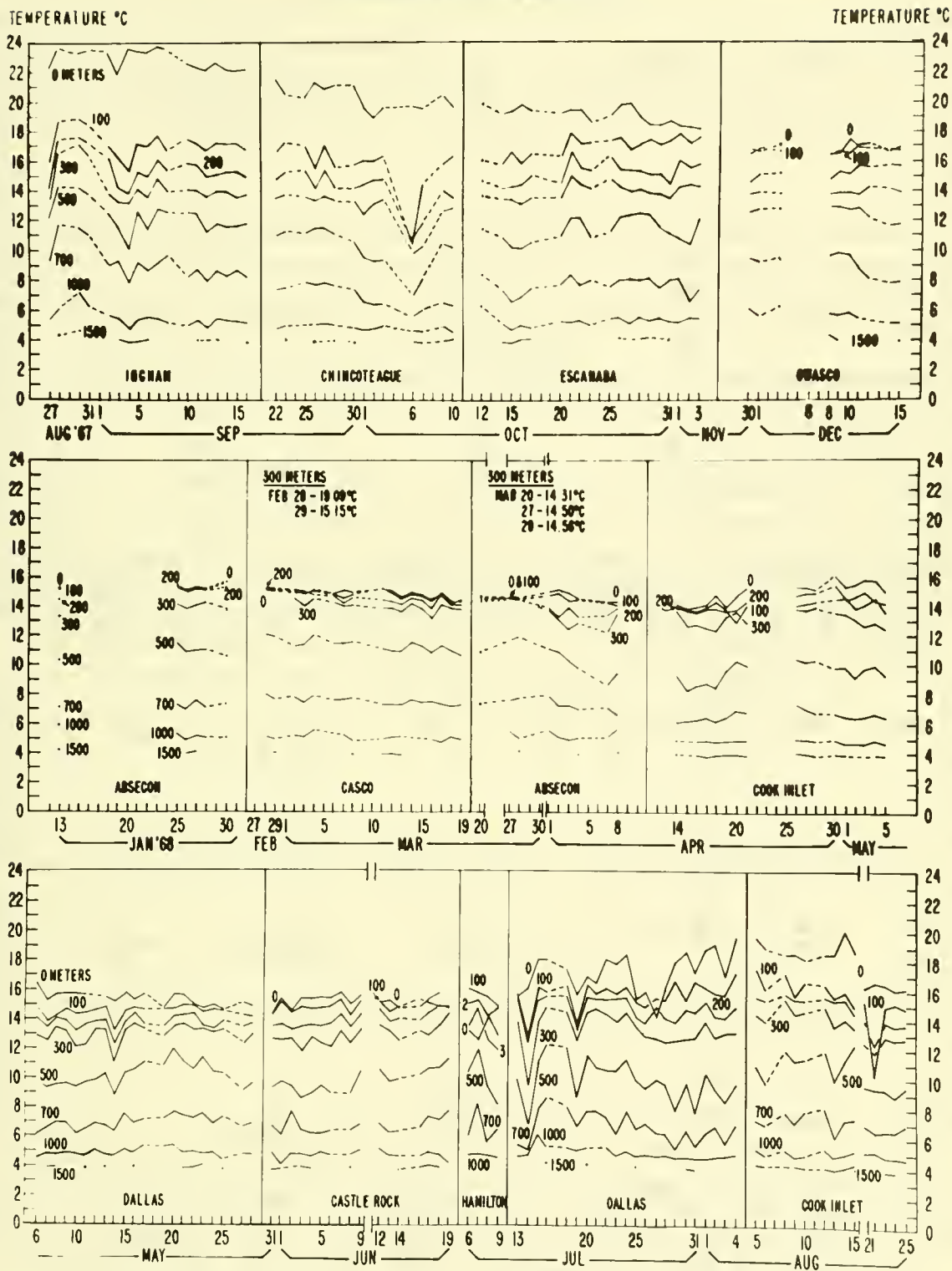


FIGURE 24. Temperature versus time at selected depths at OS DELTA, 27 August 1967 to 25 August 1968.



# SALINITY VERSUS TIME AT OCEAN STATION DELTA 27 AUGUST 1967 - 25 AUGUST 1968

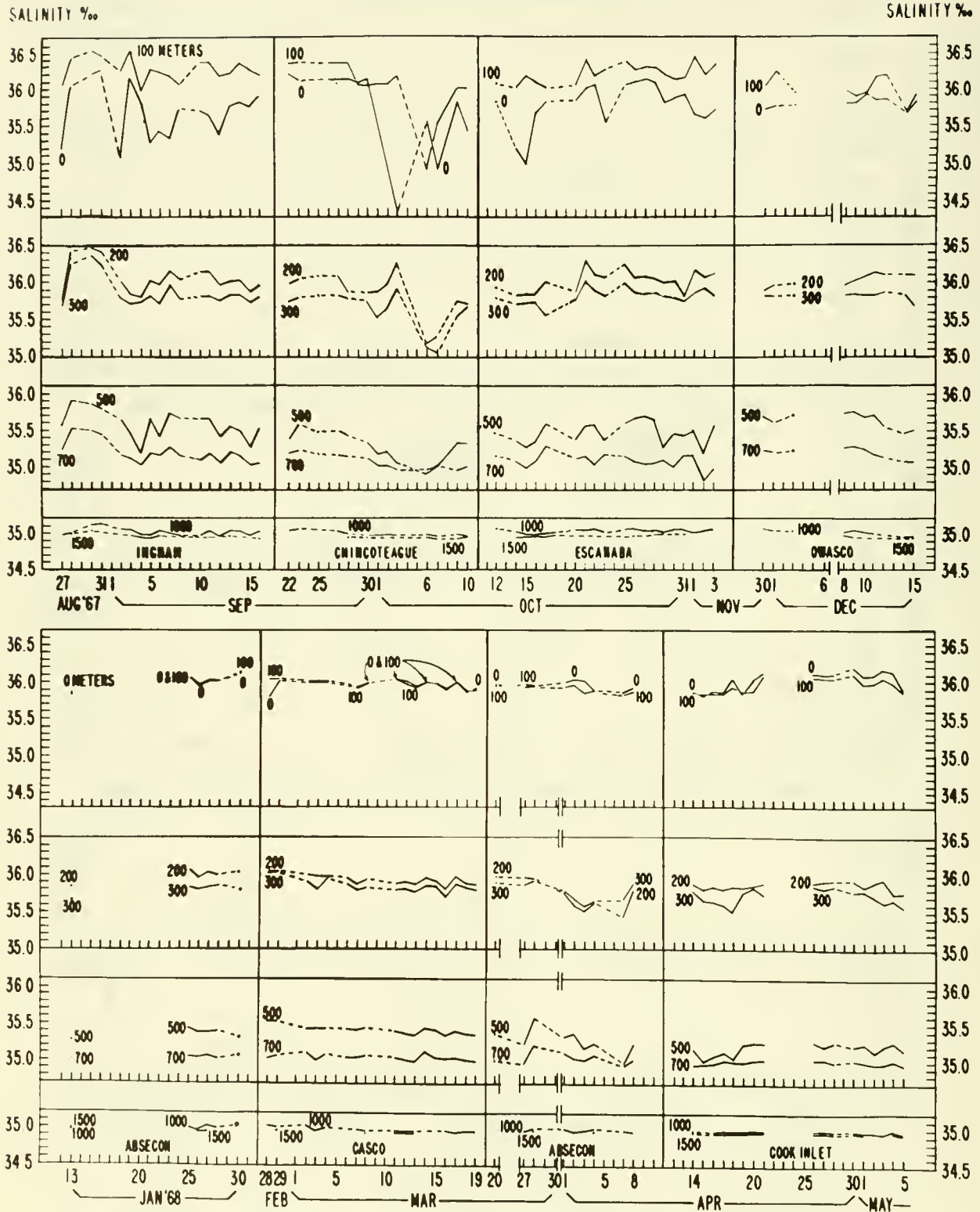


FIGURE 25a. Salinity versus time at selected depths at OS DELTA, 27 August 1967 to 5 May 1968.



# SALINITY VERSUS TIME AT OCEAN STATION DELTA (CONT'D) 27 AUGUST 1967 - 25 AUGUST 1968

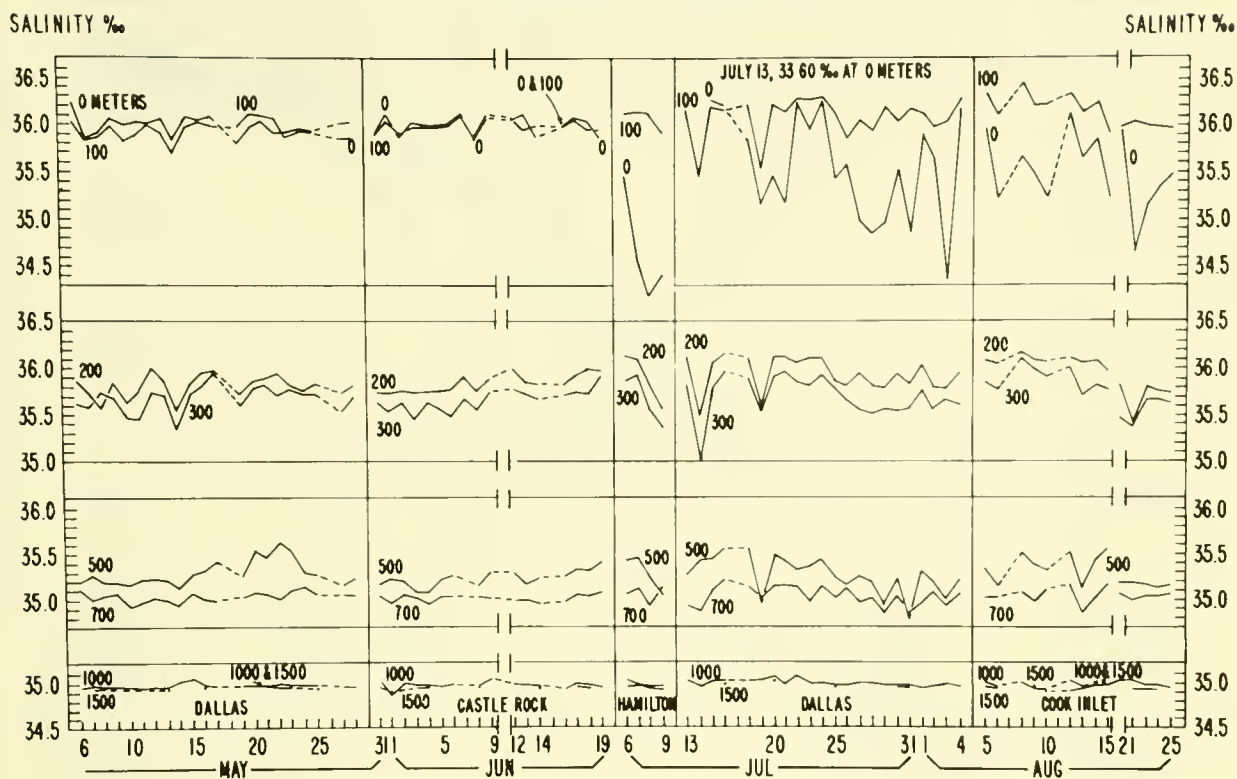


FIGURE 25b. Salinity versus time at selected depths at OS DELTA, 6 May to 25 August 1968.



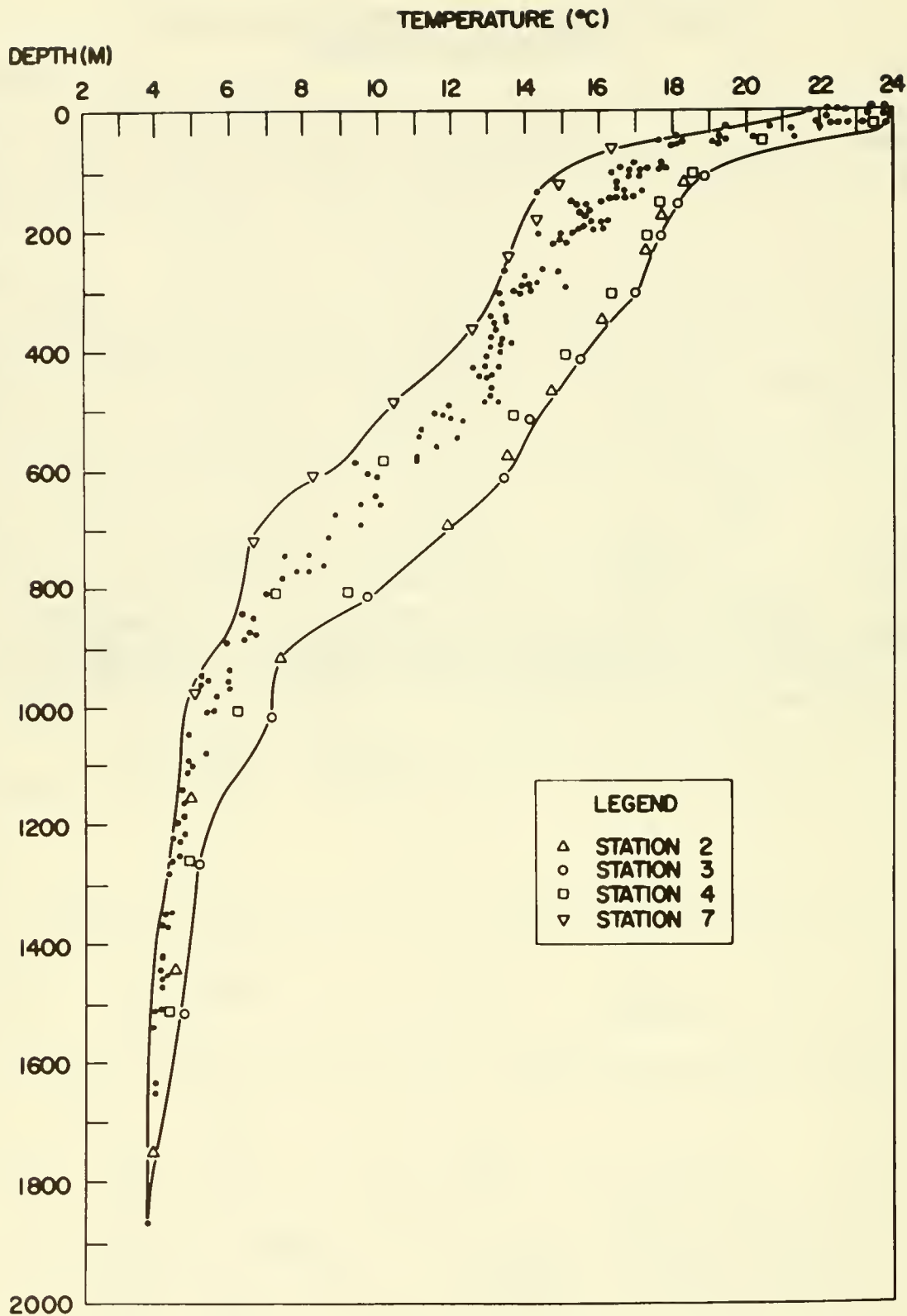


FIGURE 26. Envelope and plot of temperature (°C) versus depth (m) at Ocean Station DELTA, prepared from eighteen casts taken by USCGC INGHAM, 27 August-16 September 1967.



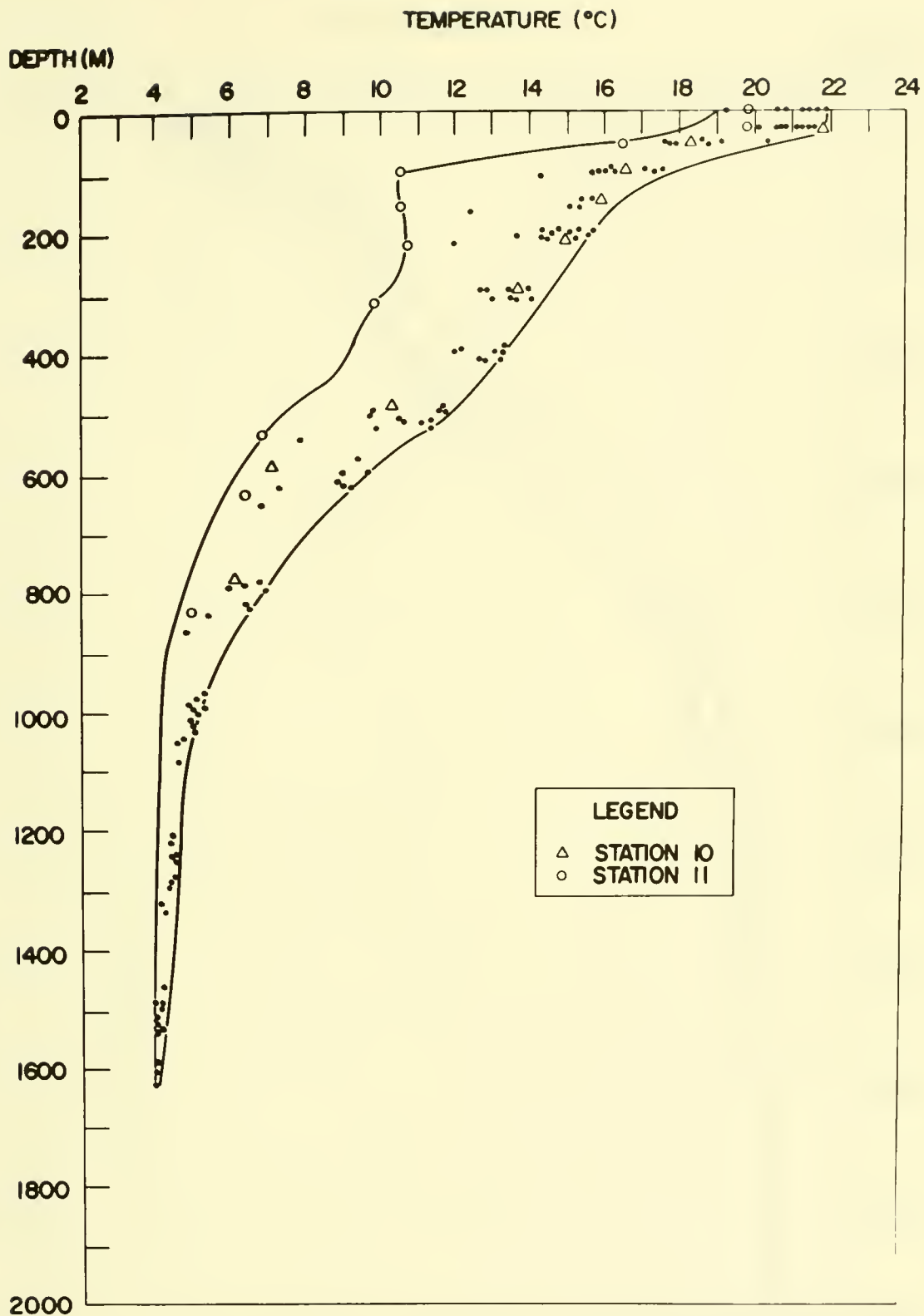


FIGURE 27. Envelope and plot of temperature (°C) versus depth (m) at Ocean Station DELTA, prepared from fourteen casts taken by USCGC CHINCOTEAGUE, 22 September-10 October 1967.



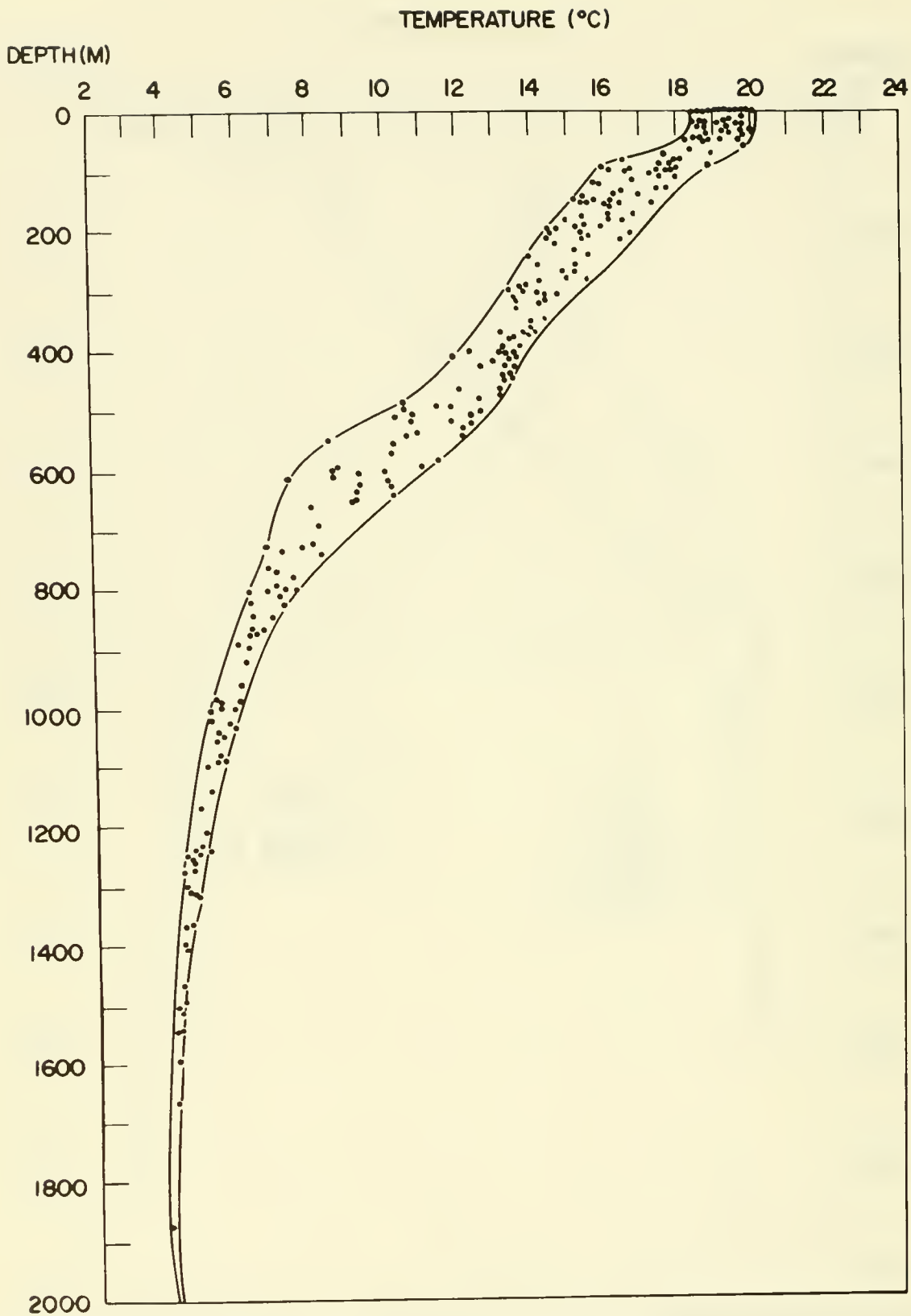


FIGURE 28. Envelope and temperature (°C) versus depth (m) at Ocean Station DELTA, prepared from twenty-two casts taken by USCGC ESCANABA, 12 October-3 November 1967.



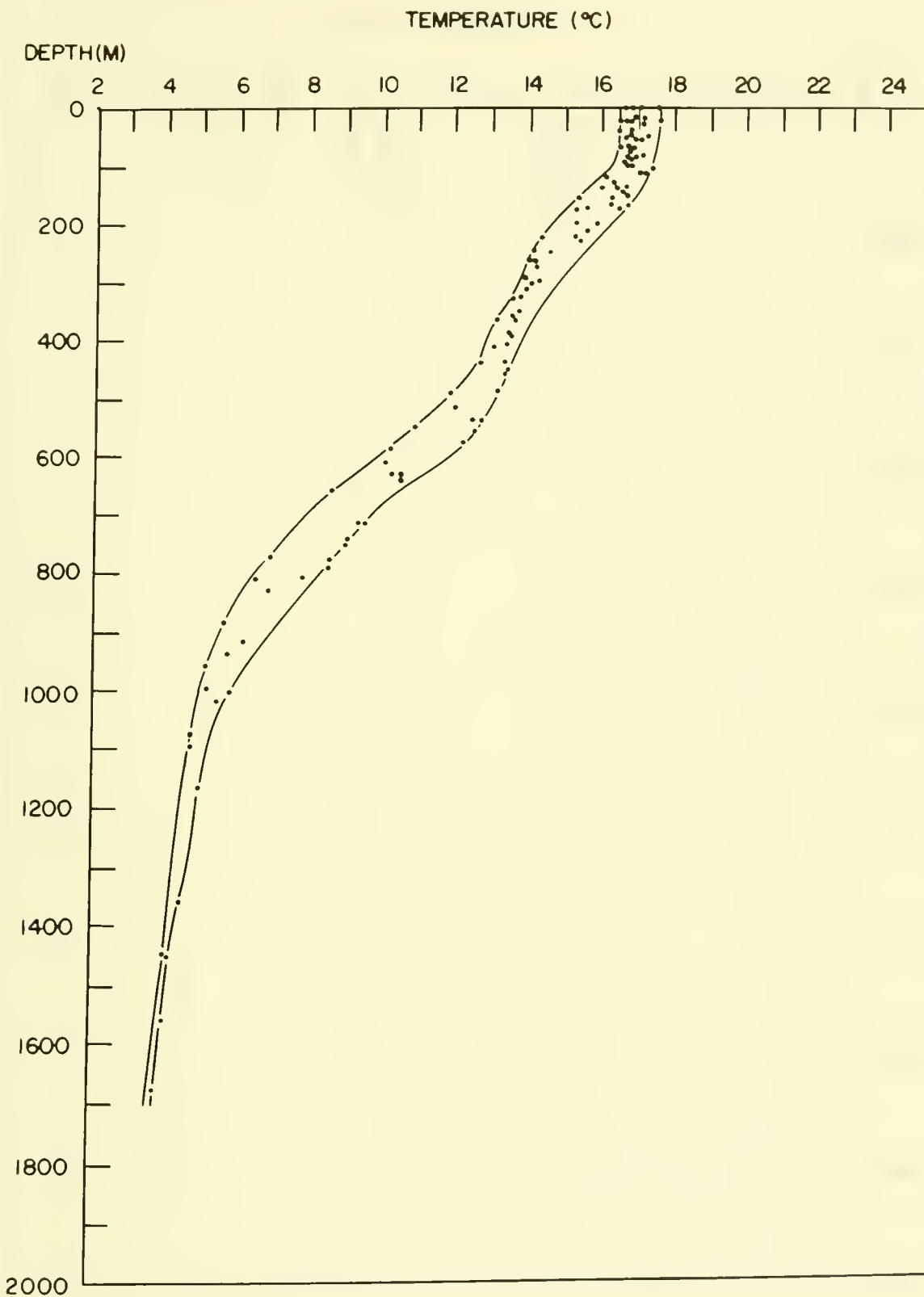


FIGURE 29. Envelope and plot of temperature (°C) versus depth (m) at Ocean Station DELTA, prepared from ten casts taken by USCGC OWASCO, 30 November-15 December 1967.



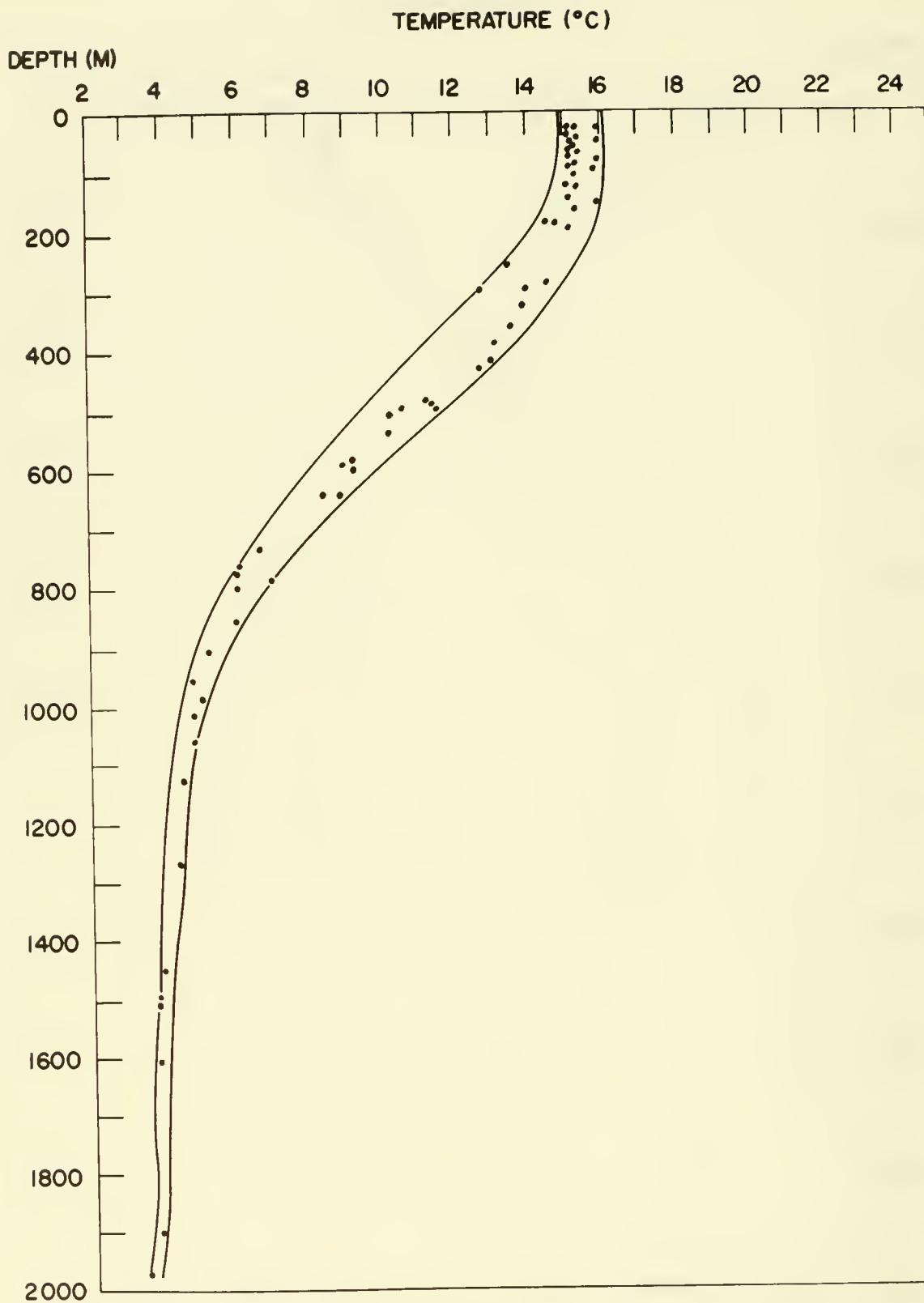


FIGURE 30. Envelope and plot of temperature (°C) versus depth (m) at Ocean Station DELTA, prepared from six casts taken by USCGC ABSECON, 13 January–30 January 1968.



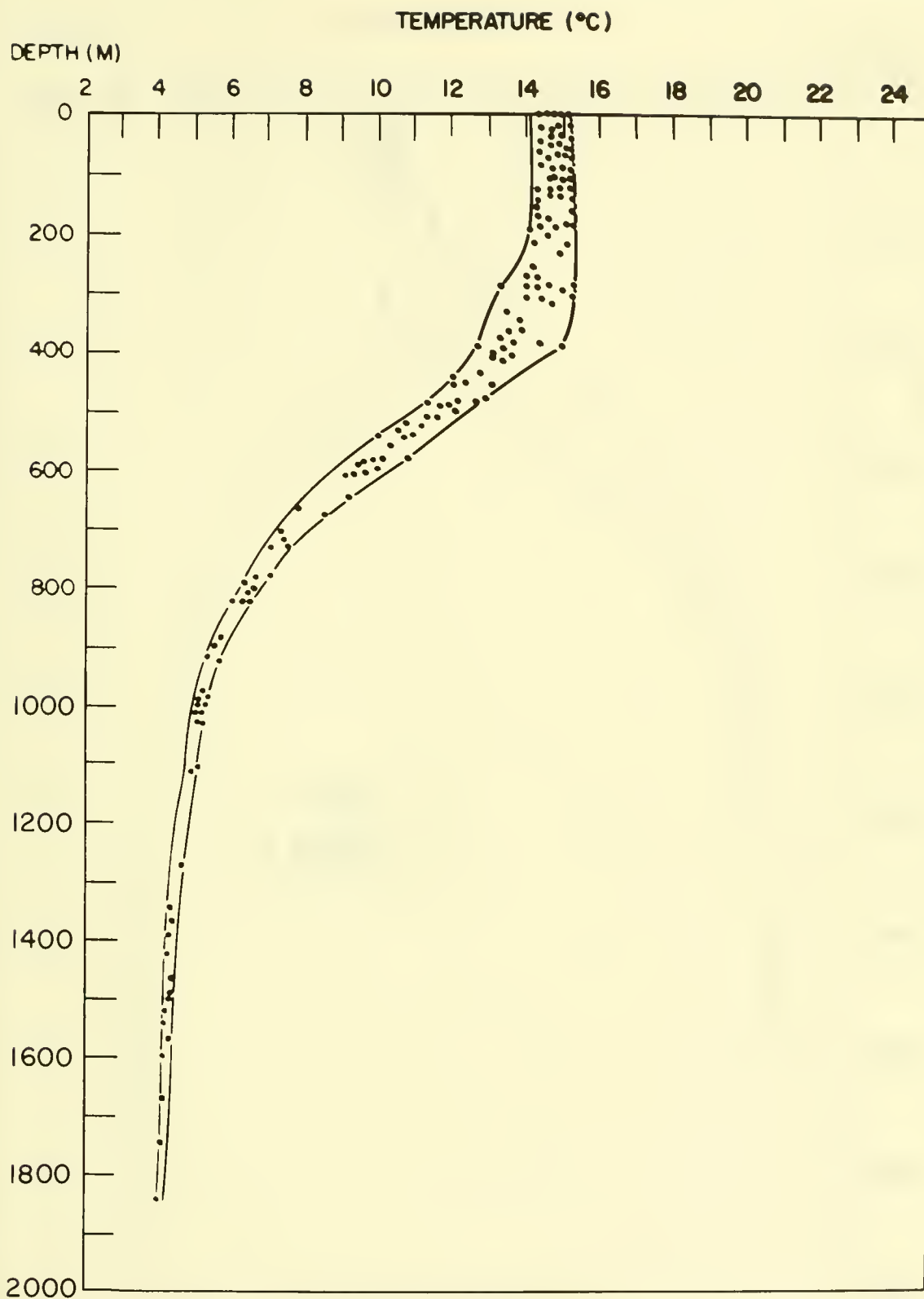


FIGURE 31. Envelope and plot of temperature (°C) versus depth (m) at Ocean Station DELTA, prepared from seventeen casts taken by USCGC CASCO, 28 February–19 March 1968.



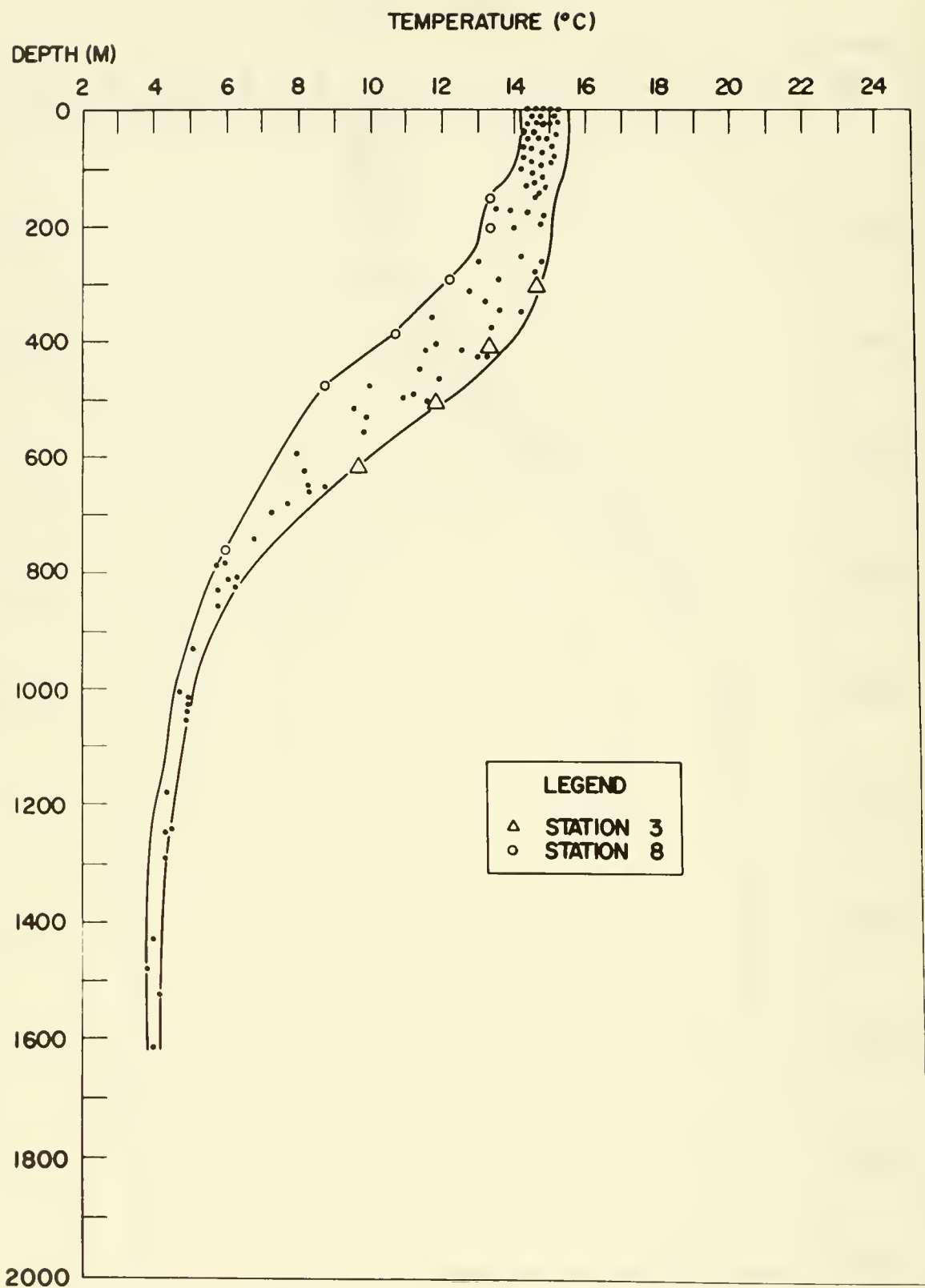


FIGURE 32. Envelope and plot of temperature (°C) versus depth (m) at Ocean Station DELTA, prepared from nine casts taken by USCGC ABSECON, 20 March–8 April 1968.



TEMPERATURE (°C)

DEPTH (M)

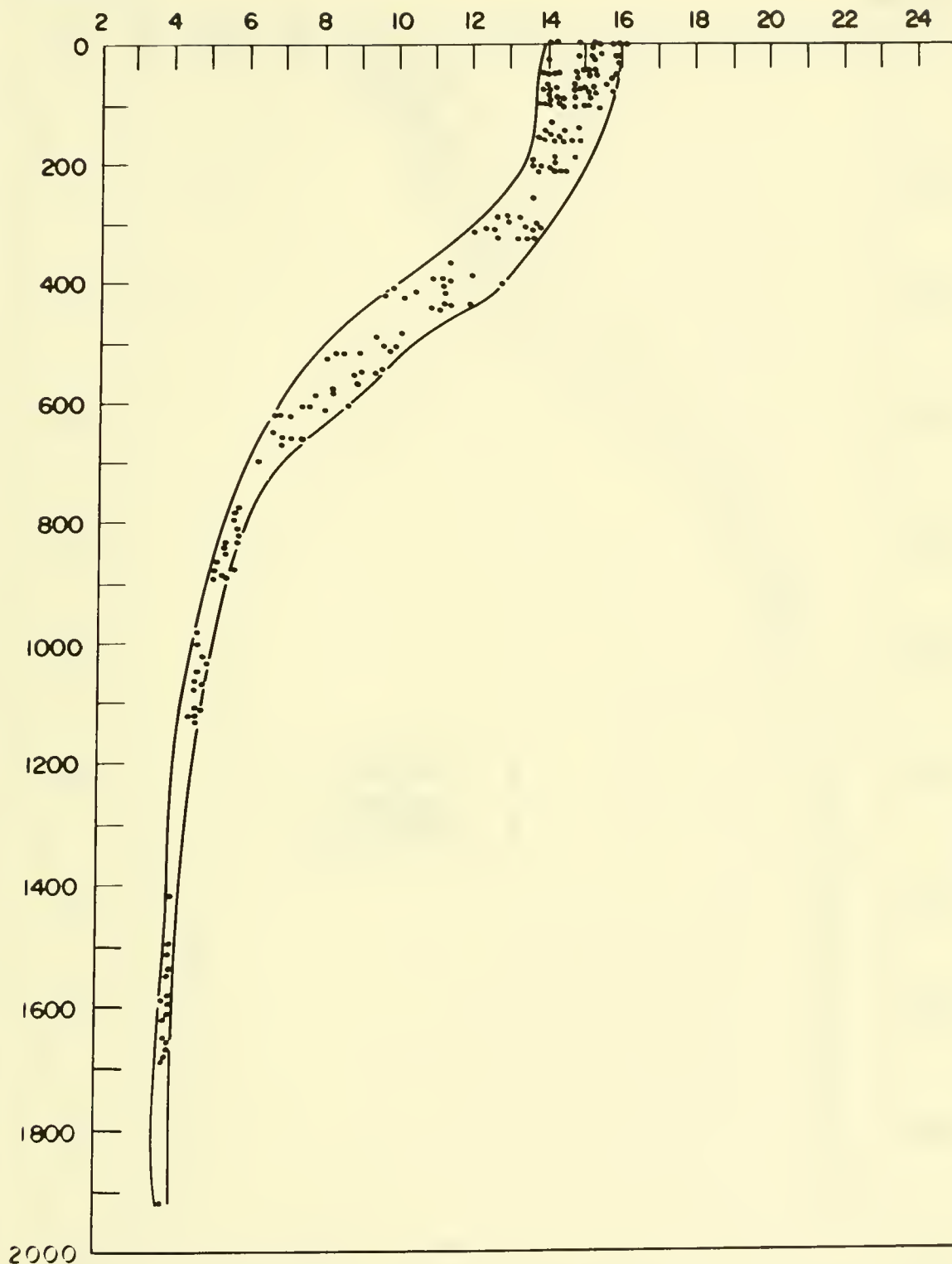


FIGURE 33. Envelope and plot of temperature (°C) versus depth (m) at Ocean Station DELTA, prepared from seventeen casts taken by USCGC COOK INLET, 14 April-5 May 1968.



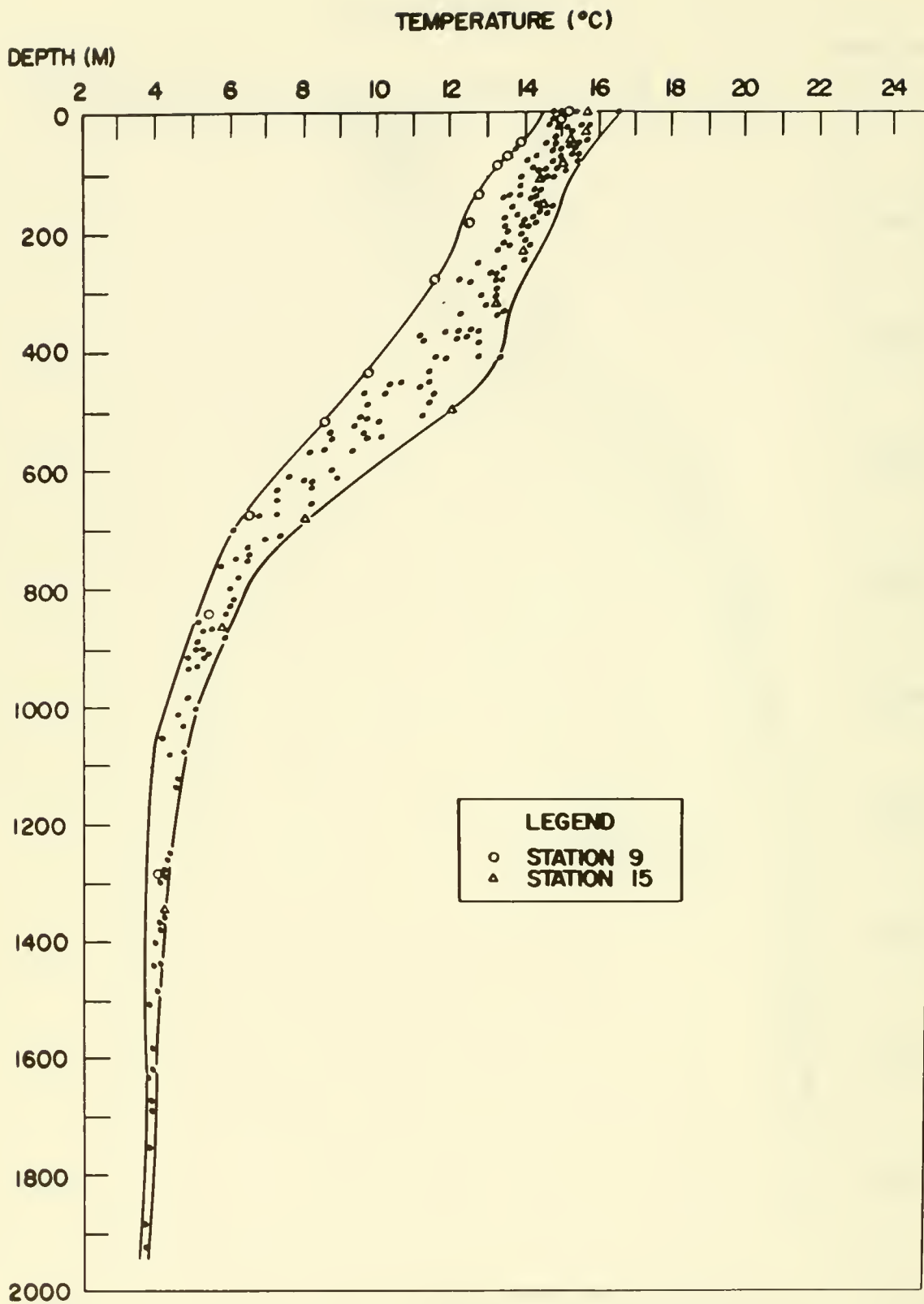


FIGURE 34. Envelope and plot of temperature (°C) versus depth (m) at Ocean Station DELTA, prepared from twenty-two casts taken by USCGC DALLAS, 6 May-28 May 1968.



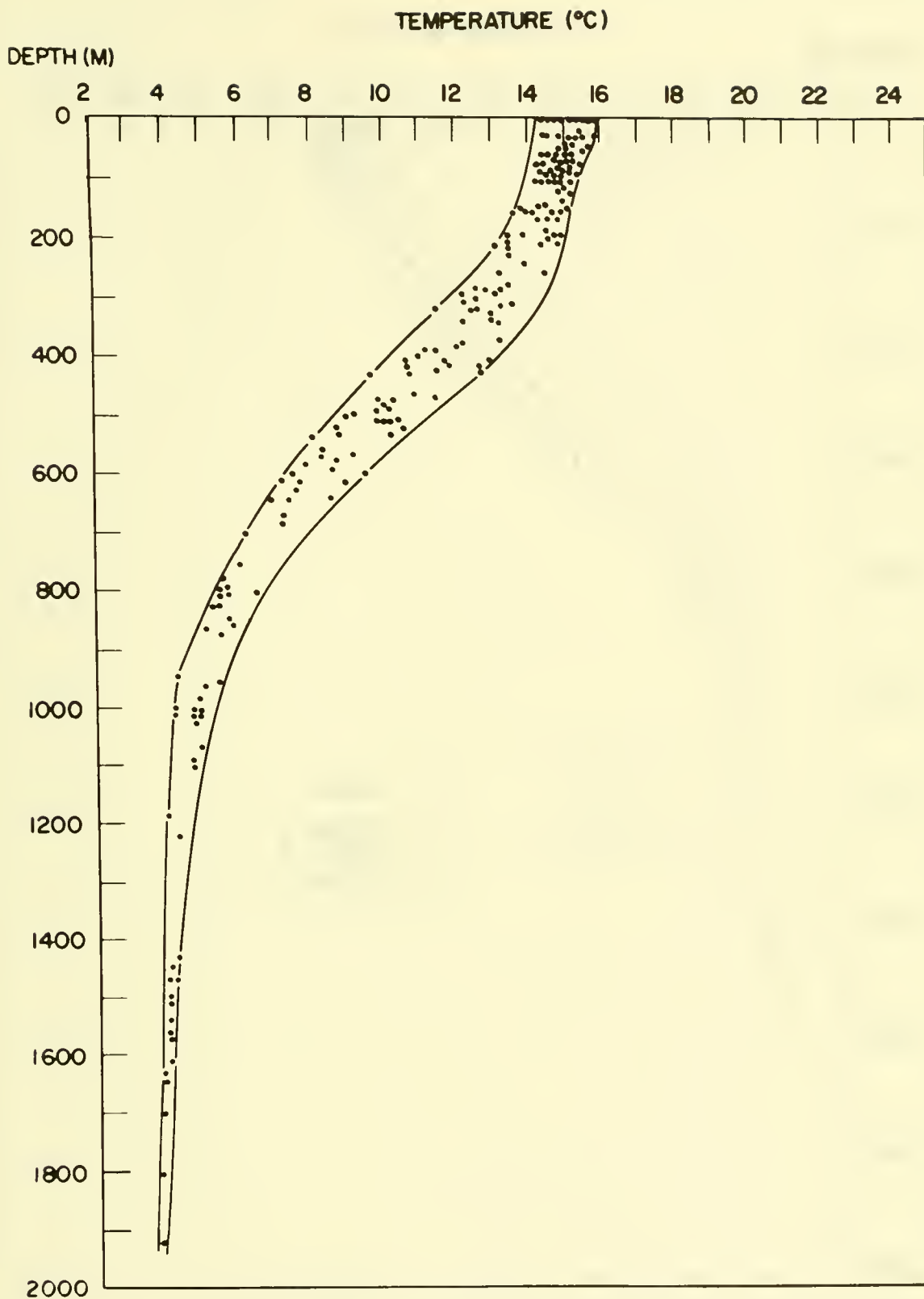


FIGURE 35. Envelope and plot of temperature (°C) versus depth (m) at Ocean Station DELTA, prepared from eighteen casts taken by USCGC CASTLE ROCK, 31 May-19 June 1968.



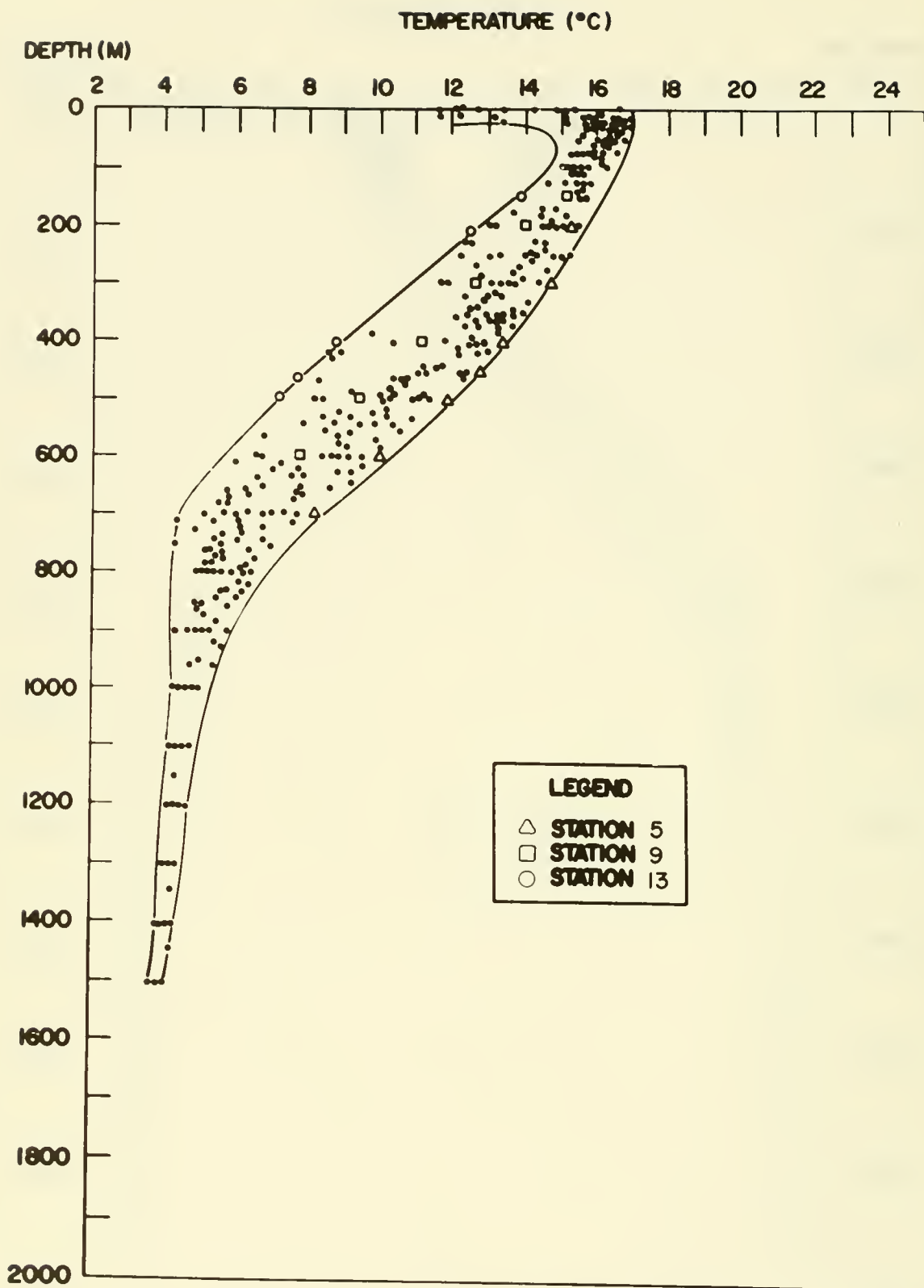


FIGURE 36. Envelope and plot of temperature (°C) versus depth (m) at Ocean Station DELTA, prepared from thirteen casts taken by USCGC HAMILTON, 6 July-9 July 1968.



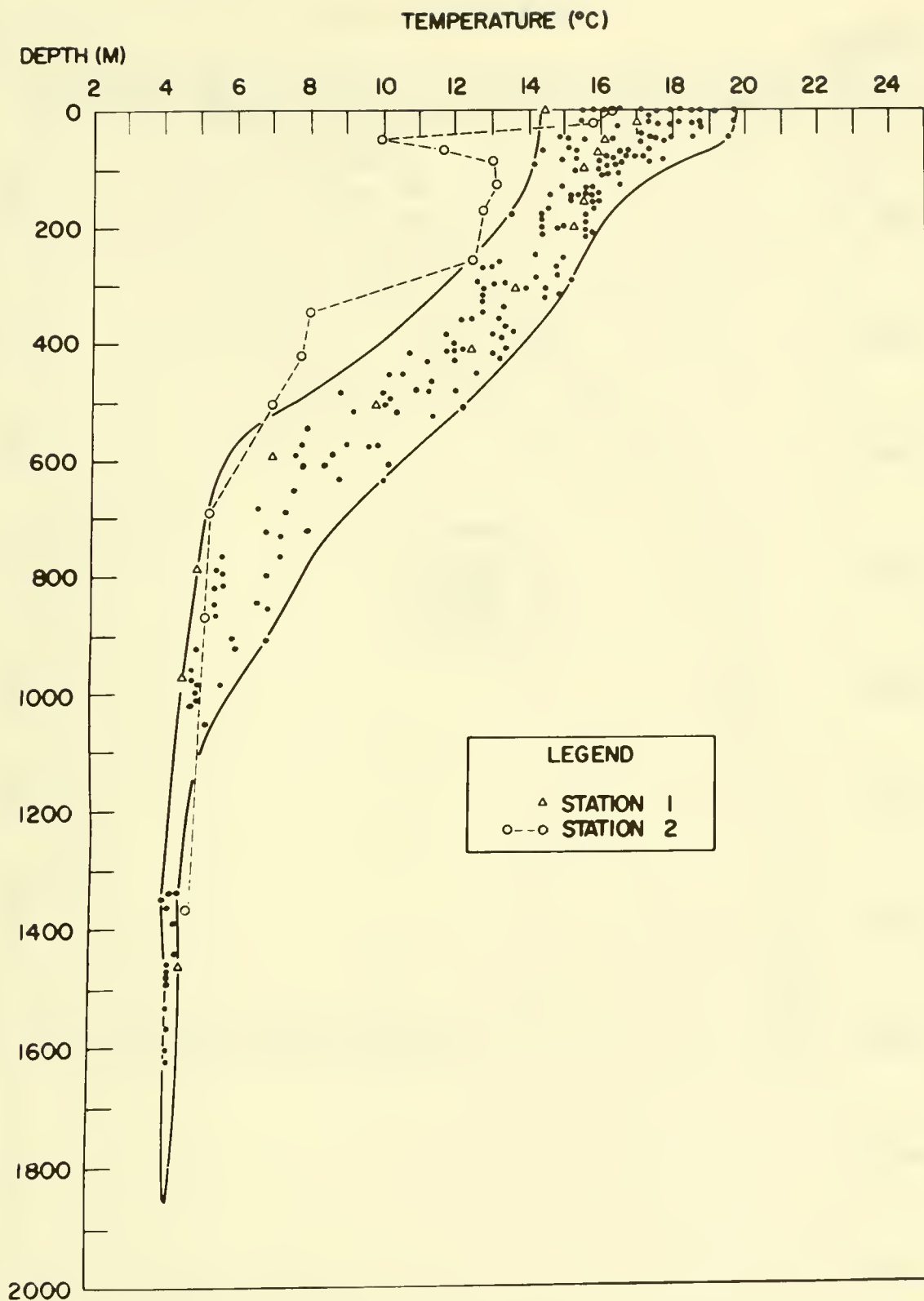


FIGURE 37. Envelope and plot of temperature (°C) versus depth (m) at Ocean Station DELTA, prepared from twenty-two casts taken by USCGC DALLAS, 13 July-4 August 1968. Station number 2 is not included in the envelope due to its variance from the normal.



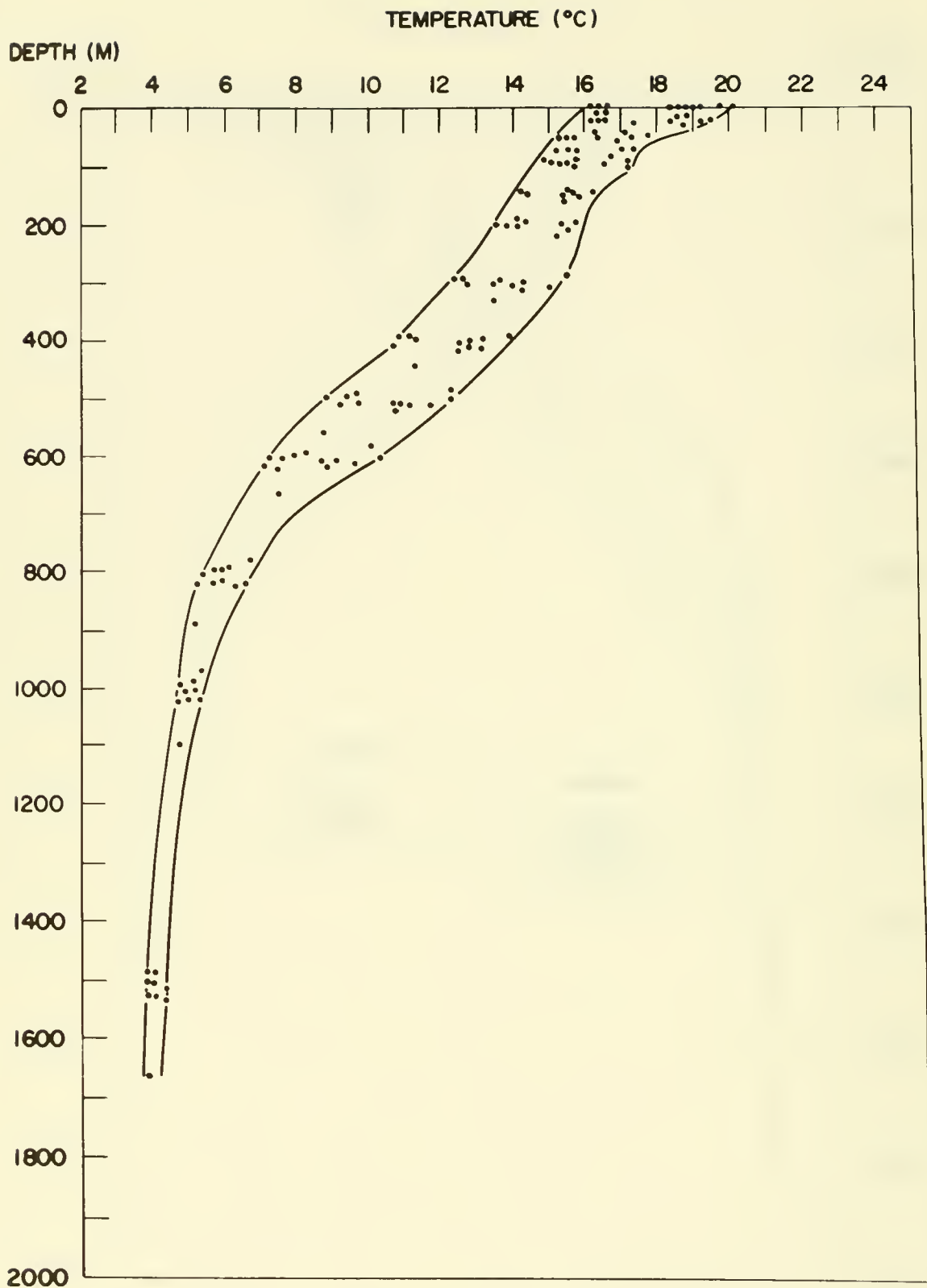


FIGURE 38. Envelope and plot of temperature (°C) versus depth (m) at Ocean Station DELTA, prepared from fourteen casts taken by USCGC COOK INLET, 5 August-25 August 1968.



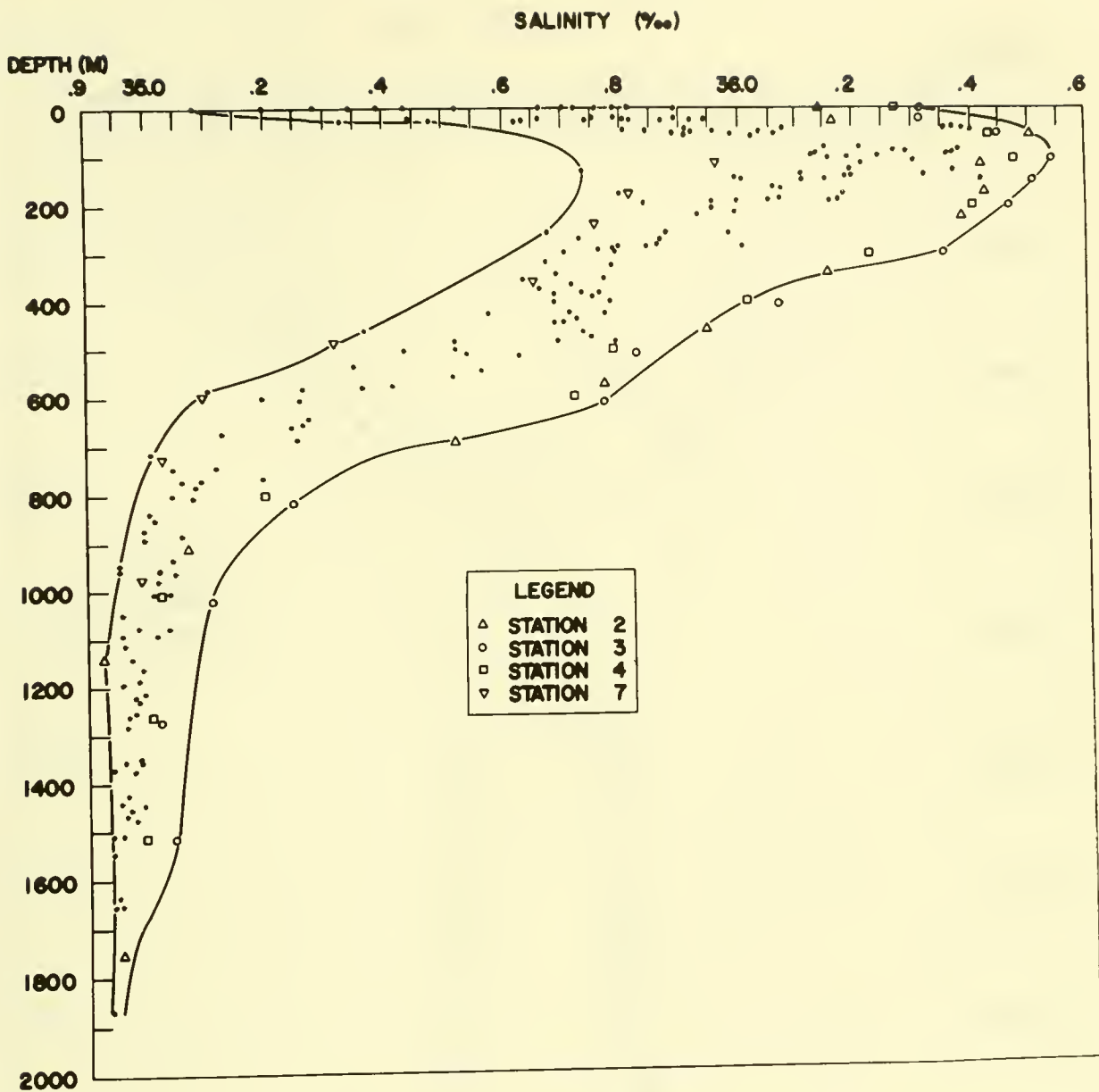


FIGURE 39. Envelope and plot of salinity (‰) versus depth (m) at Ocean Station DELTA, prepared from eighteen casts taken by USCGC INGHAM, 27 August-16 September 1967.



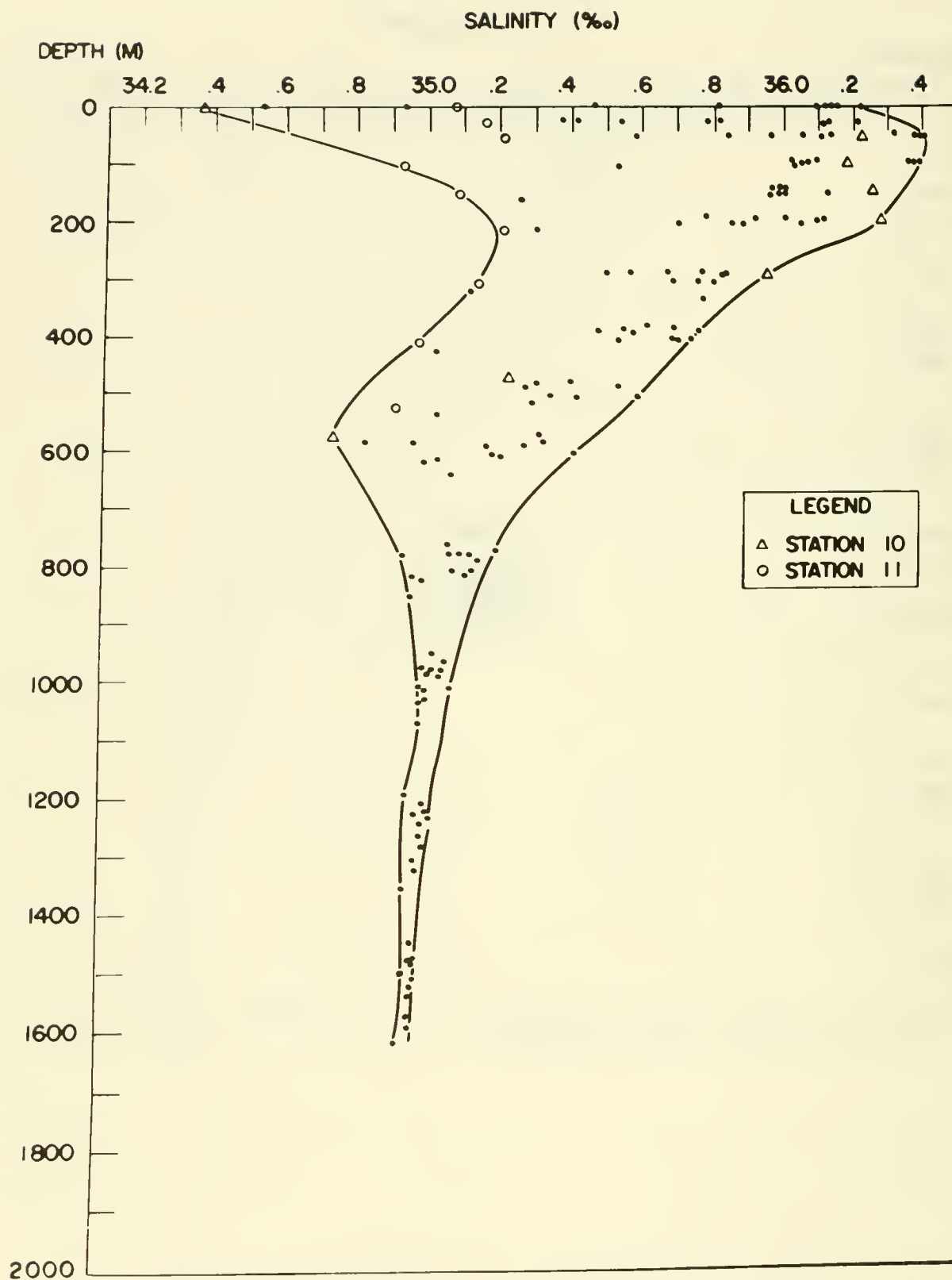


FIGURE 40. Envelope and plot of salinity (‰) versus depth (m) at Ocean Station DELTA, prepared from fourteen casts taken by USCGC CHINCOTEAGUE, 22 September-10 October 1967.



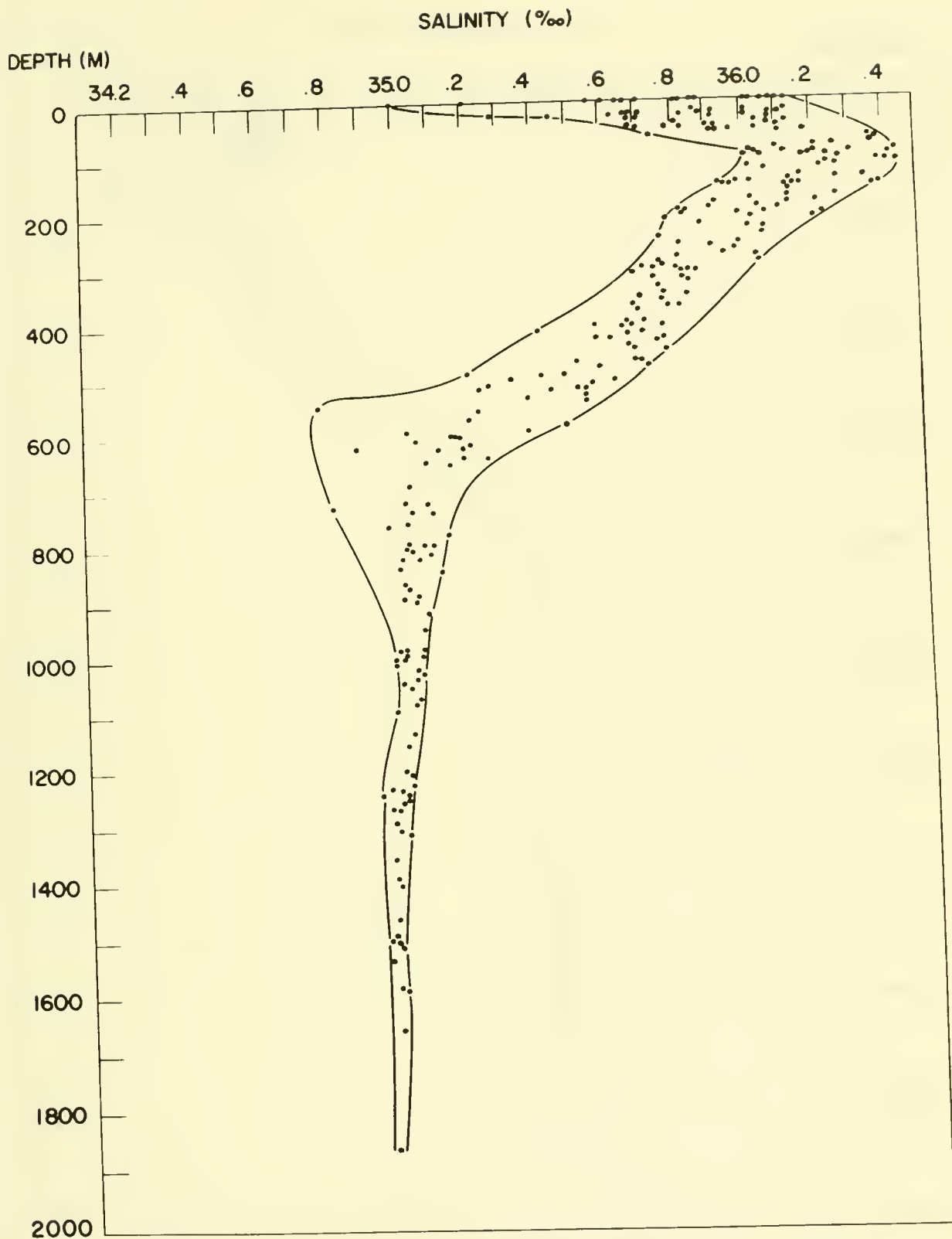


FIGURE 41. Envelope and plot of salinity (‰) versus depth (m) at Ocean Station DELTA, prepared from twenty-two casts taken by USCGC ESCANABA, 12 October-3 November 1967.



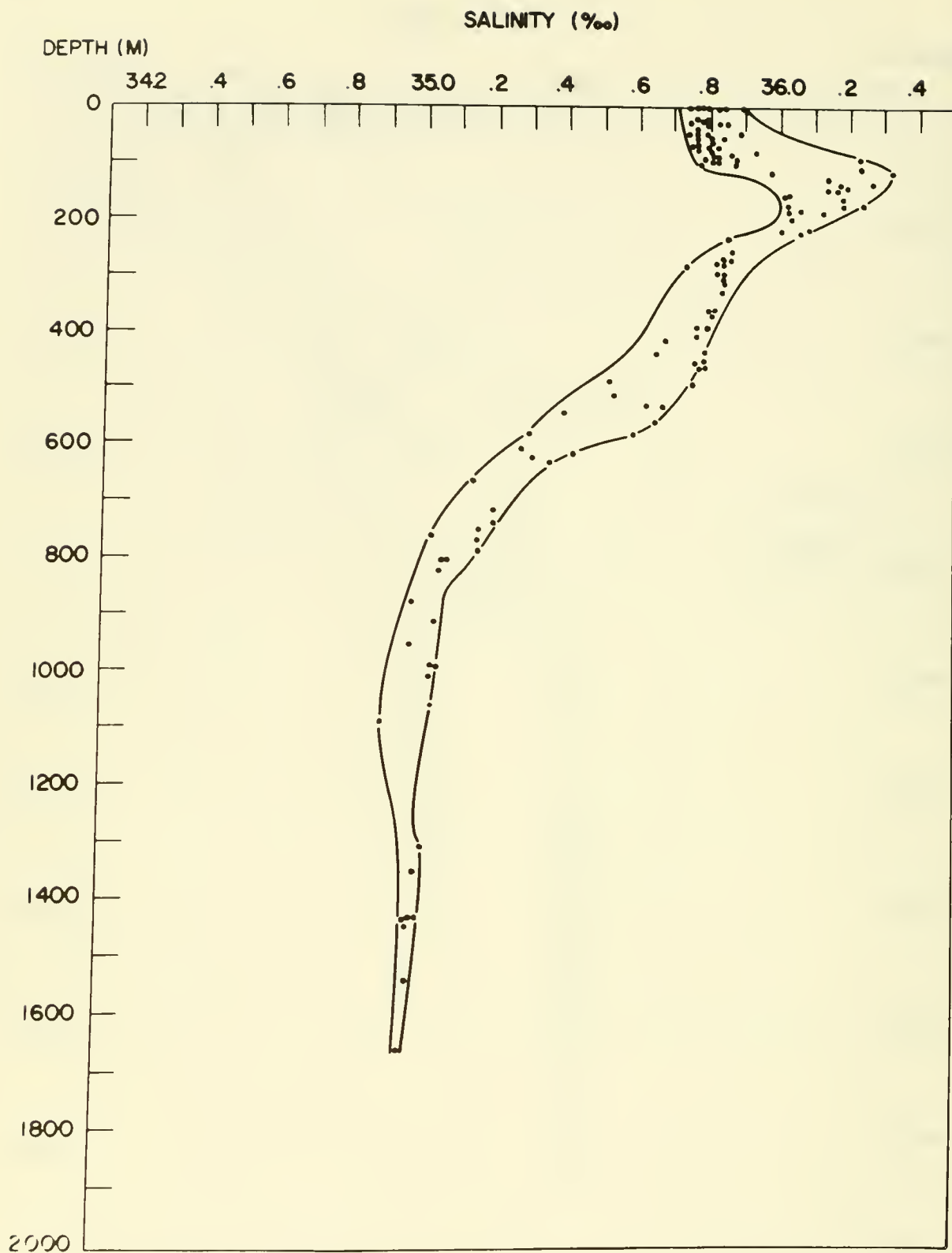


FIGURE 42. Envelope and plot of salinity (‰) versus depth (m) at Ocean Station DELTA, prepared from ten casts taken by USCGC OWASCO, 30 November–15 December 1967.



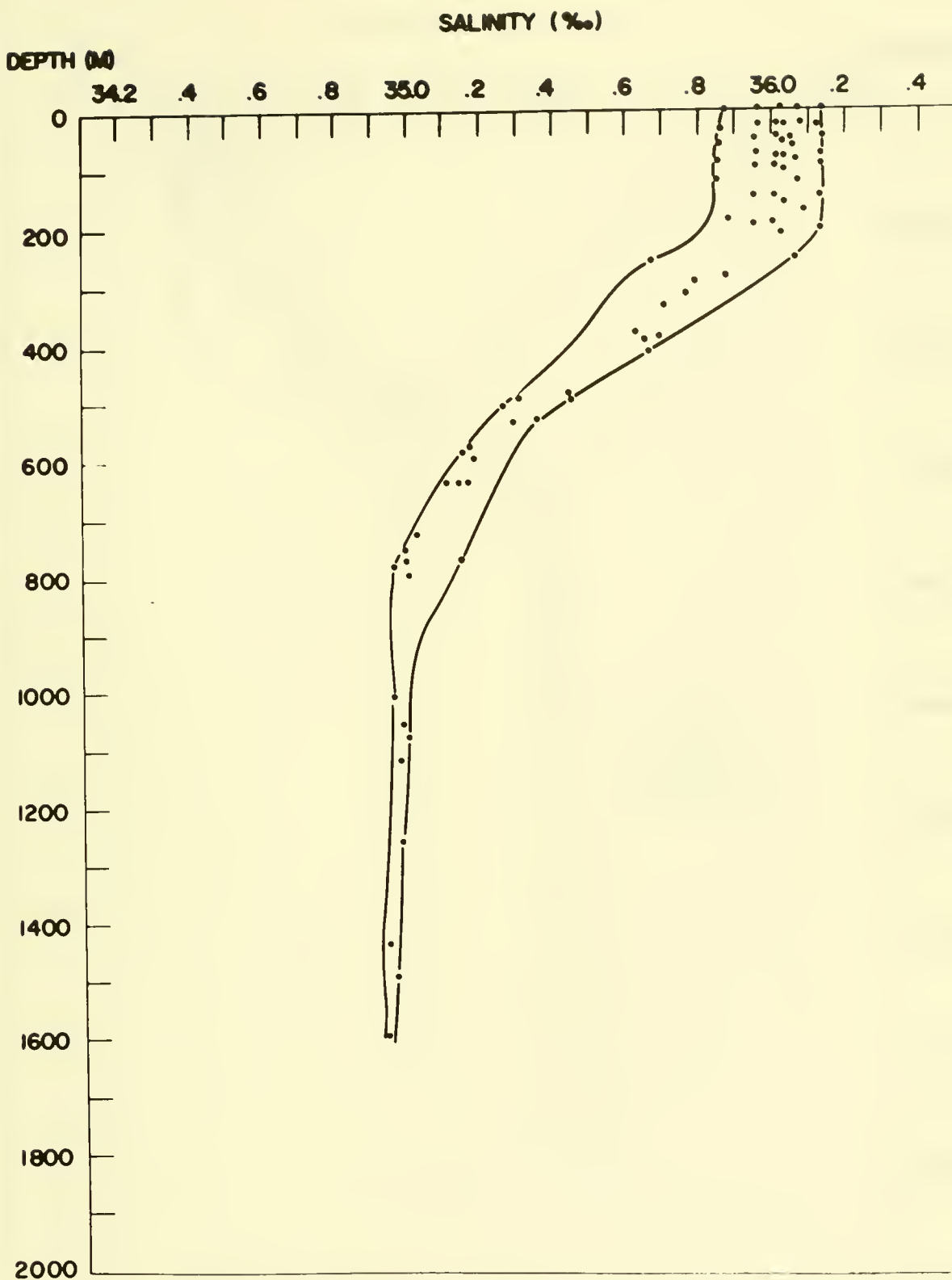


FIGURE 43. Envelope and plot of salinity (‰) versus depth (m) at Ocean Station DELTA, prepared from six casts taken by USCGC ABSECON, 13 January–30 January 1968.



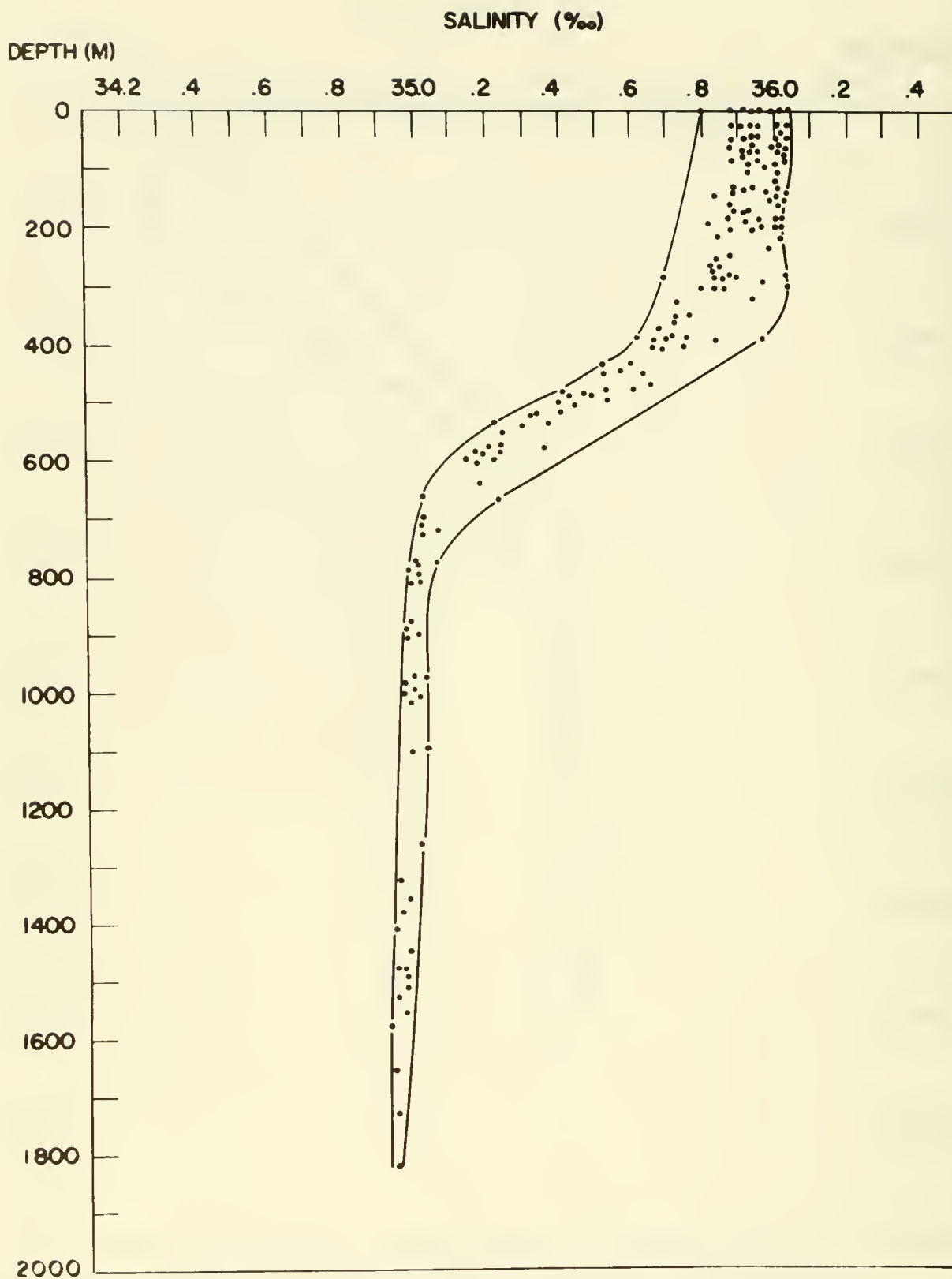


FIGURE 44. Envelope and plot of salinity (‰) versus depth (m) at Ocean Station DELTA, prepared from seventeen casts taken by USCGC CASCO, 28 February-19 March 1968.



SALINITY (‰)

DEPTH (M)

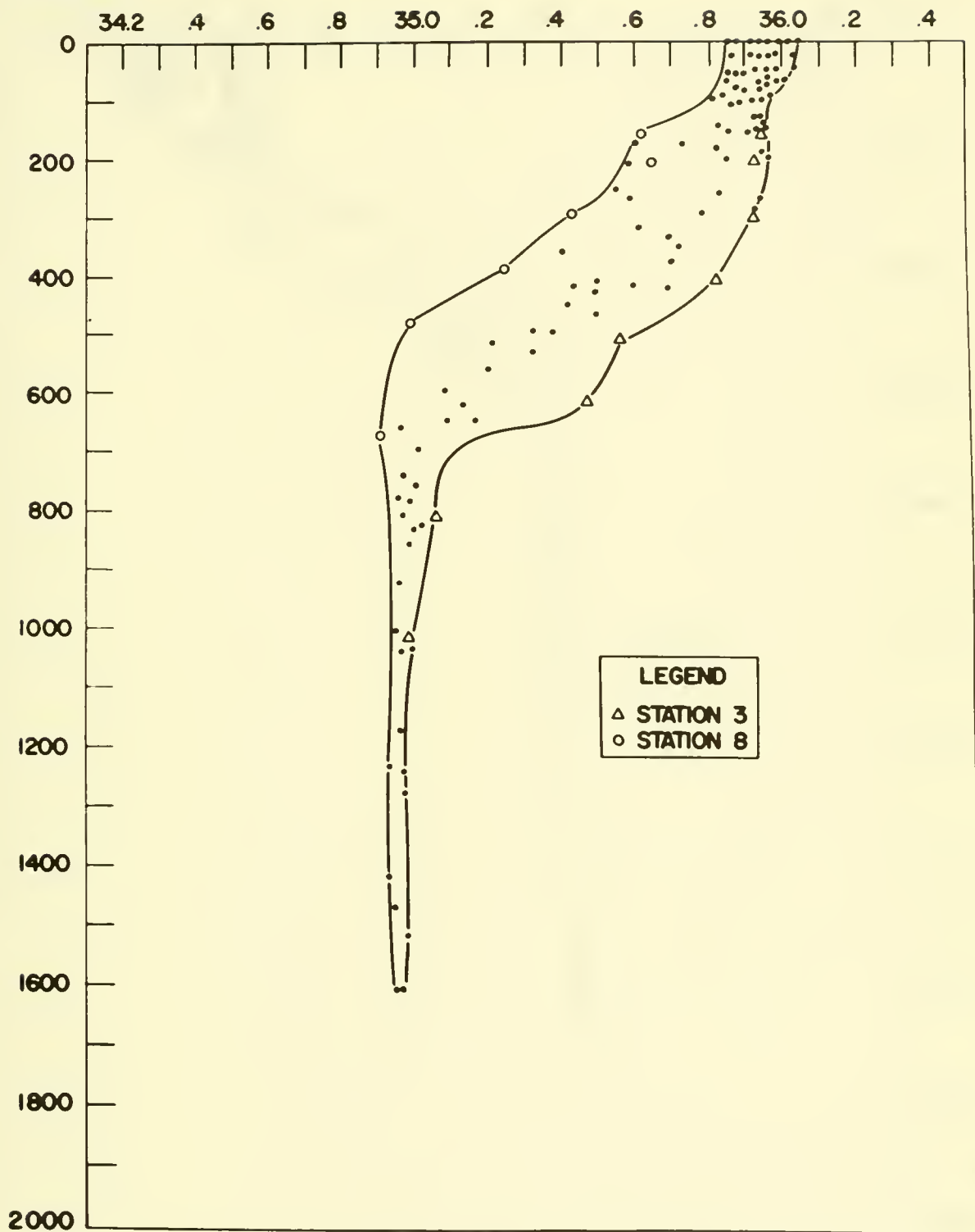


FIGURE 45. Envelope and plot of salinity (‰) versus depth (m) at Ocean Station DELTA, prepared from nine casts taken by USCGC ABSECON, 20 March-8 April 1968.



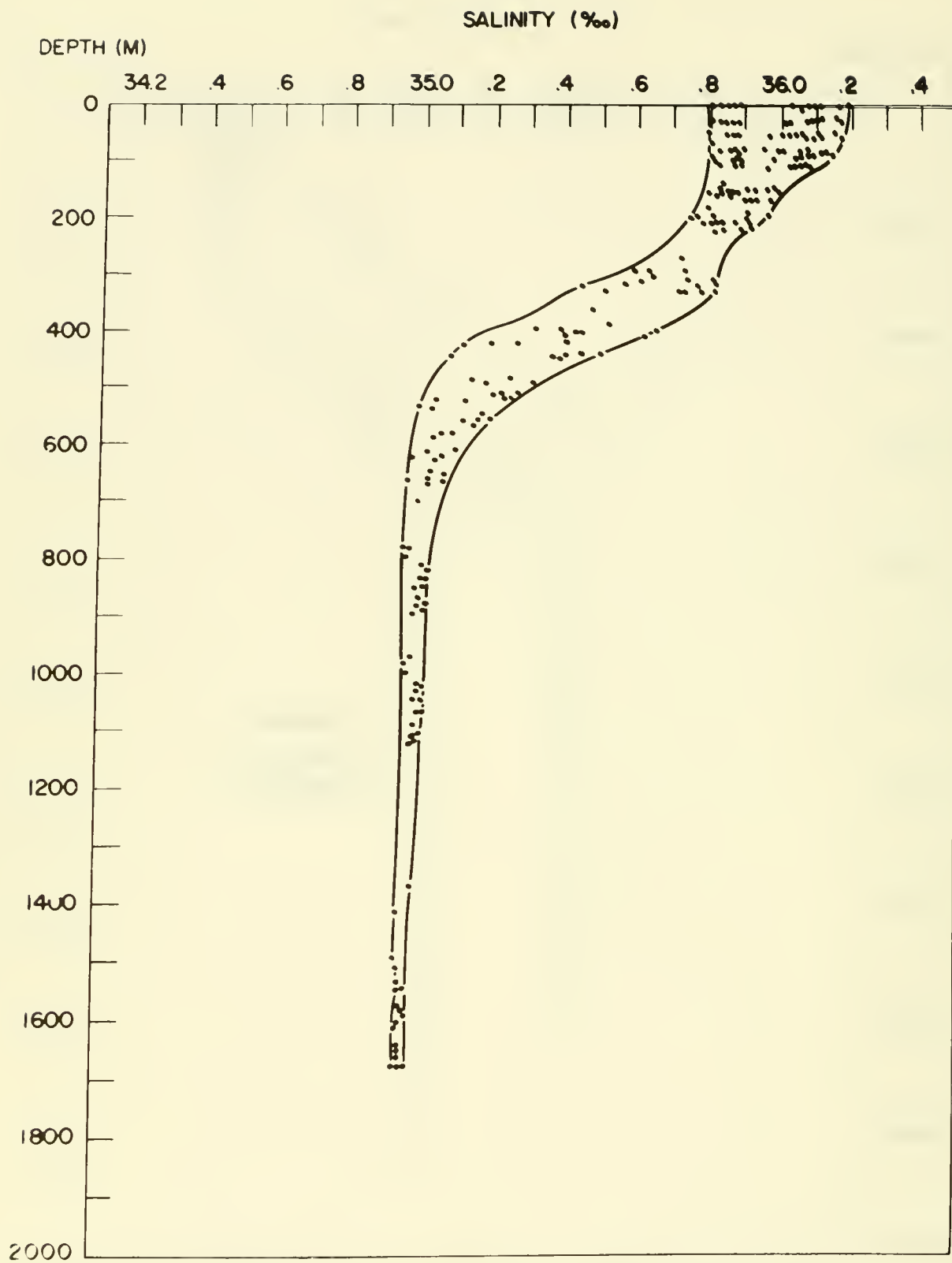


FIGURE 46. Envelope and plot of salinity (‰) versus depth (m) at Ocean Station DELTA, prepared from seventeen casts taken by USCGC COOK INLET, 14 April-5 May 1968.



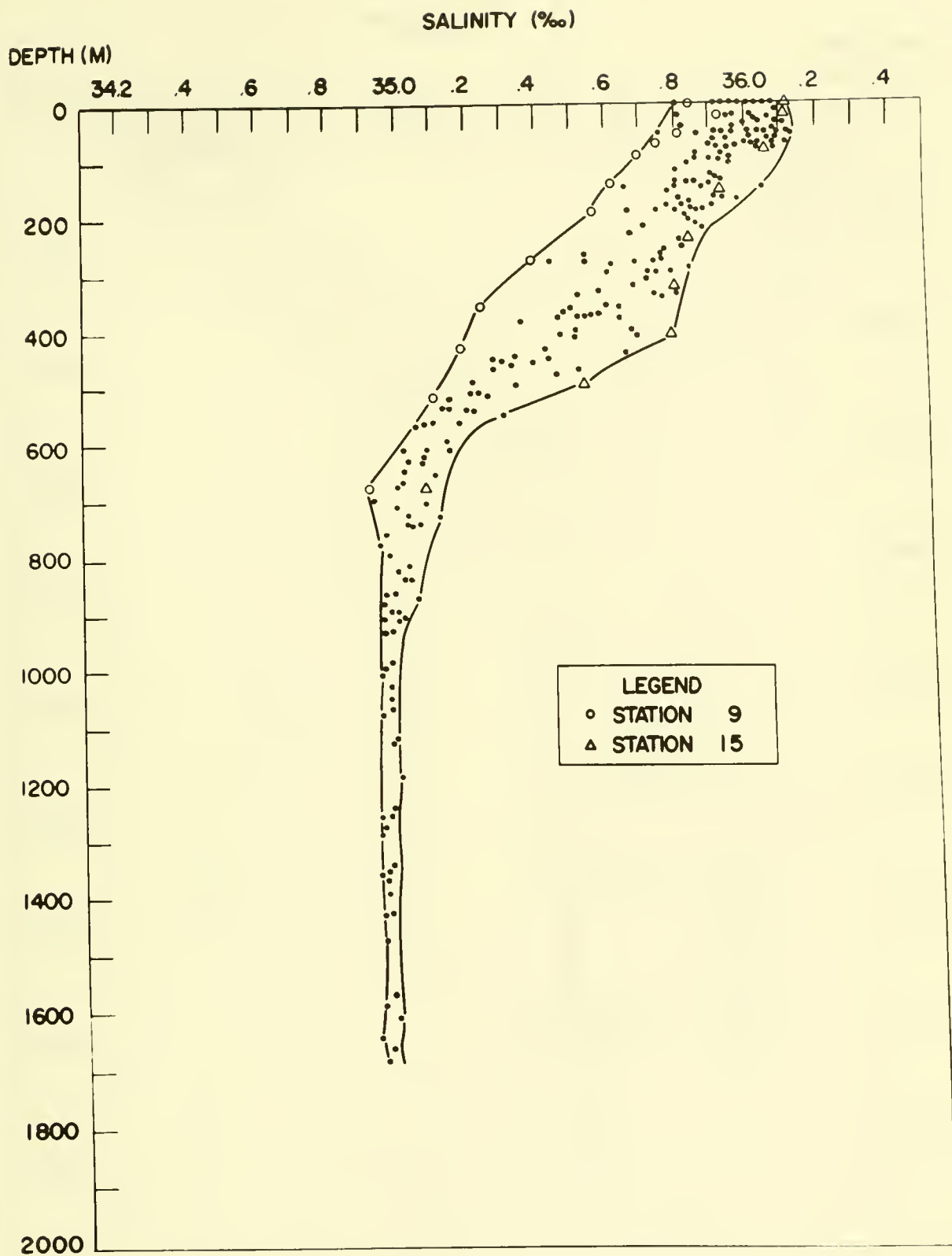


FIGURE 47. Envelope and plot of salinity (‰) versus depth (m) at Ocean Station DELTA, prepared from twenty-two casts taken by USCGC DALLAS, 6 May-28 May 1968.



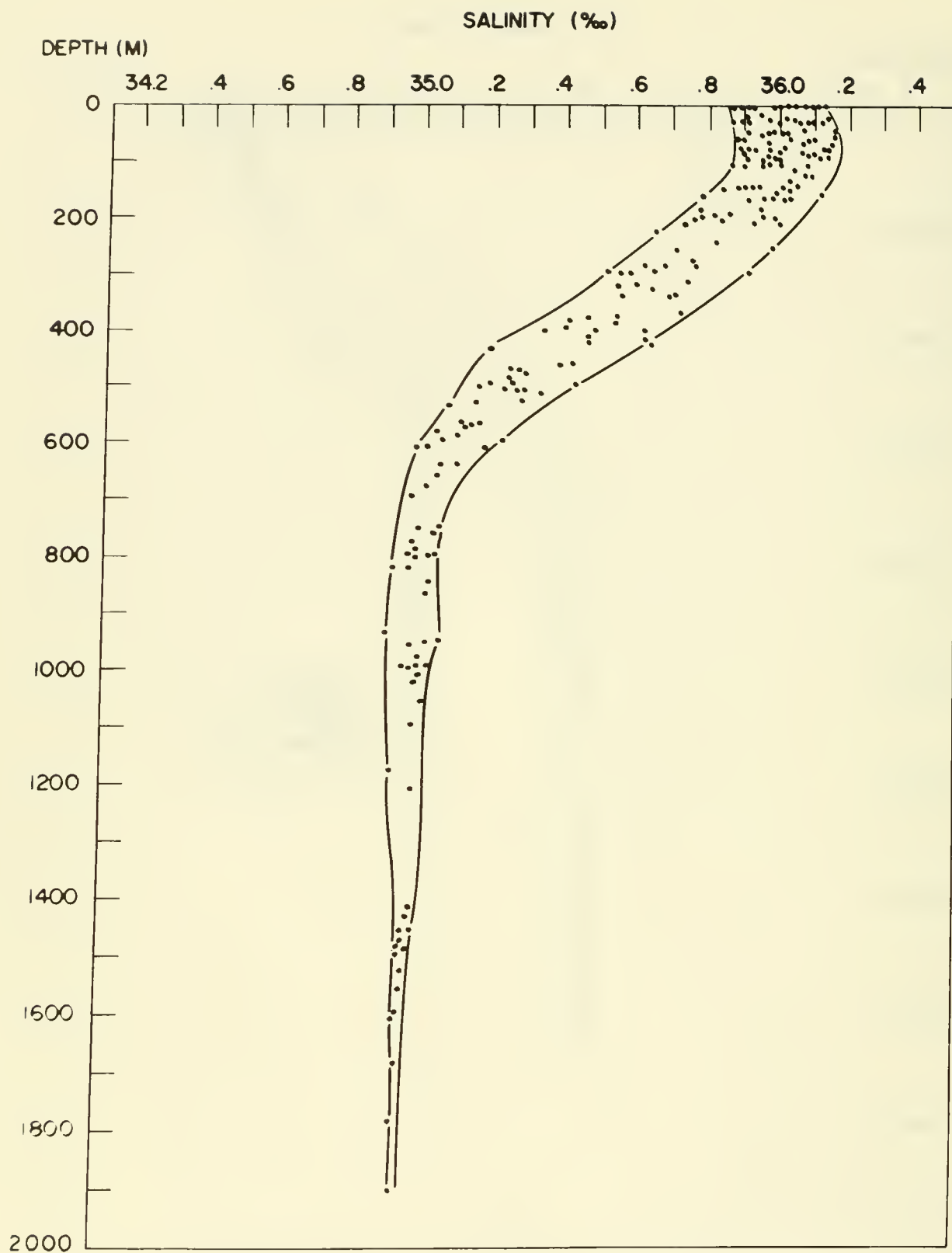


FIGURE 48. Envelope and plot of salinity (‰) versus depth (m) at Ocean Station DELTA, prepared from eighteen casts taken by USCGC CASTLE ROCK, 31 May-19 June 1968.



# SALINITY (‰)

DEPTH (M)

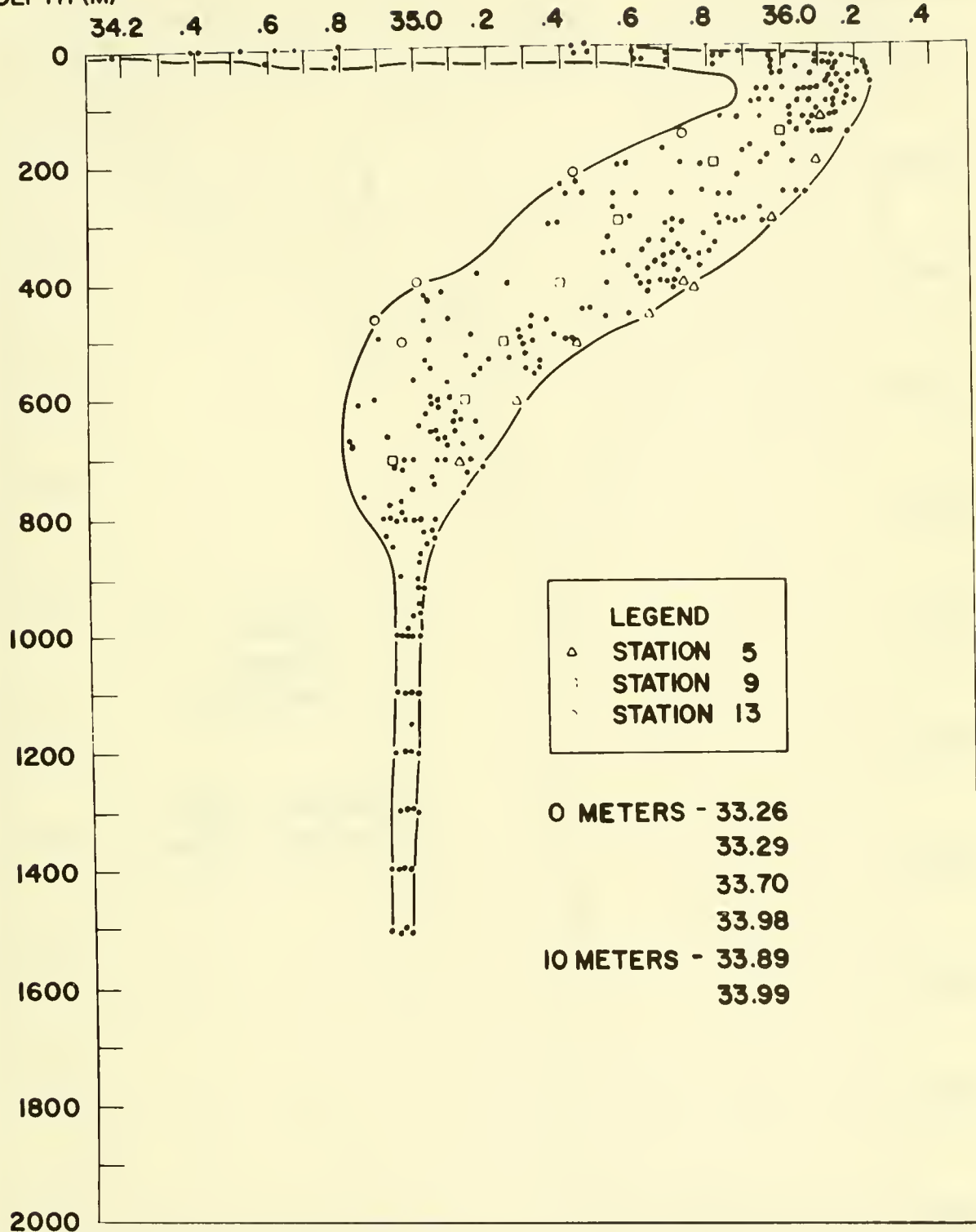


FIGURE 49. Envelope and plot of salinity (‰) versus depth (m) at Ocean Station DELTA, prepared from thirteen casts taken by USCGC HAMILTON, 6 July-9 July 1968.



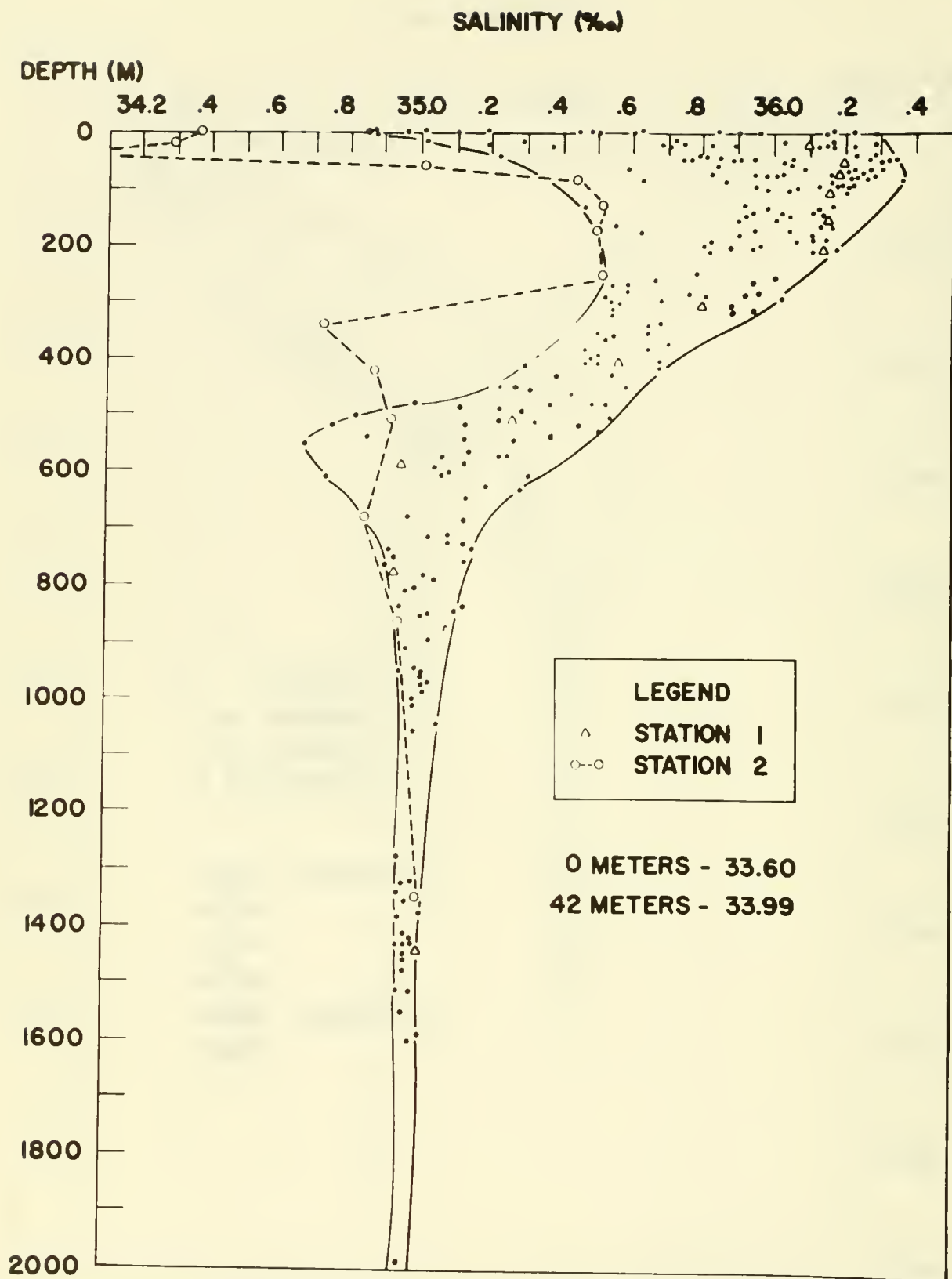


FIGURE 50. Envelope and plot of salinity (‰) versus depth (m) at Ocean Station DELTA, prepared from twenty-two casts taken by USCGC DALLAS, 13 July-4 August 1968. Station number 2 is not included in the envelope due to its variance from the normal.



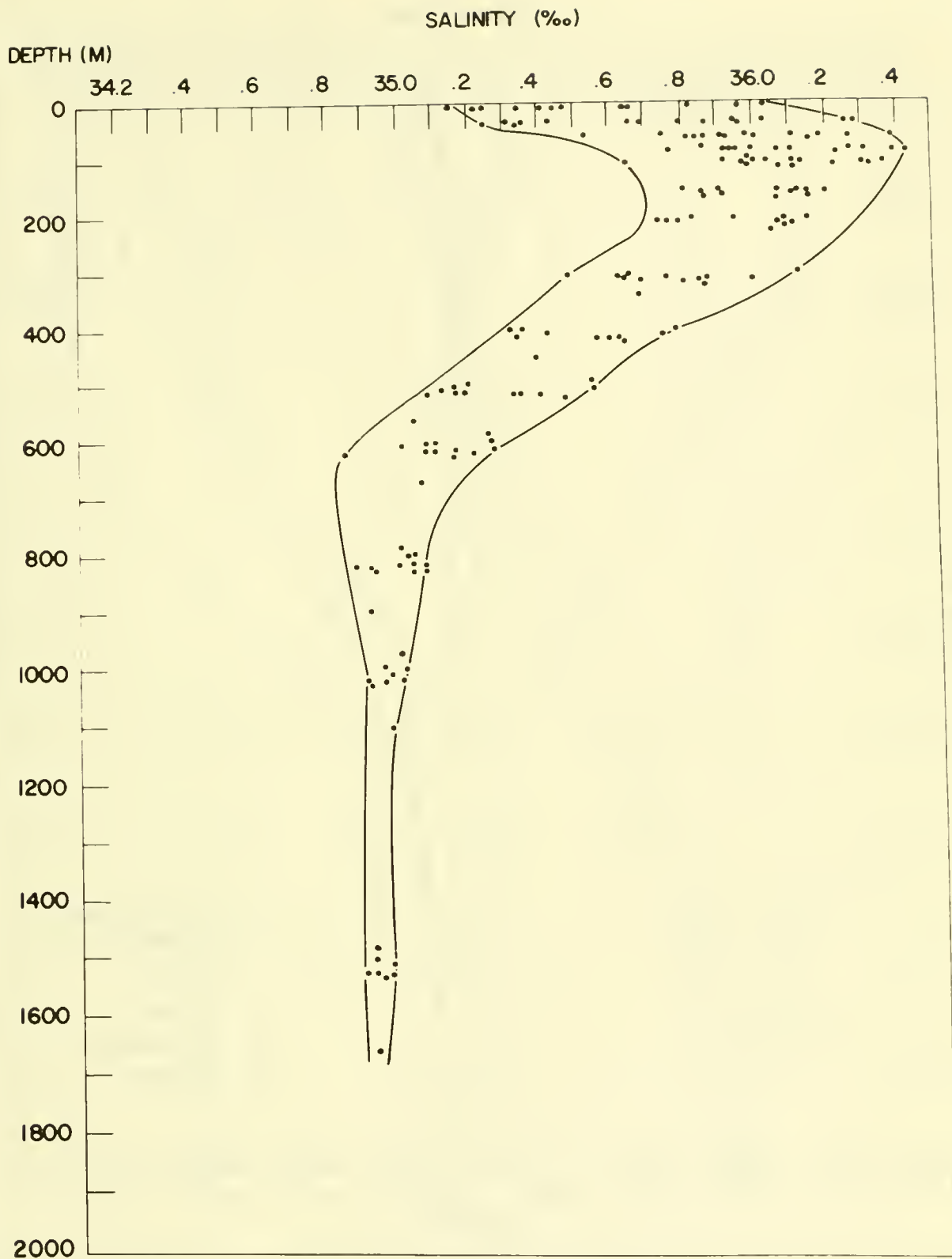


FIGURE 51. Envelope and plot of salinity (‰) versus depth (m) at Ocean Station DELTA, prepared from fourteen casts taken by USCGC COOK INLET, 5 August–25 August 1968.



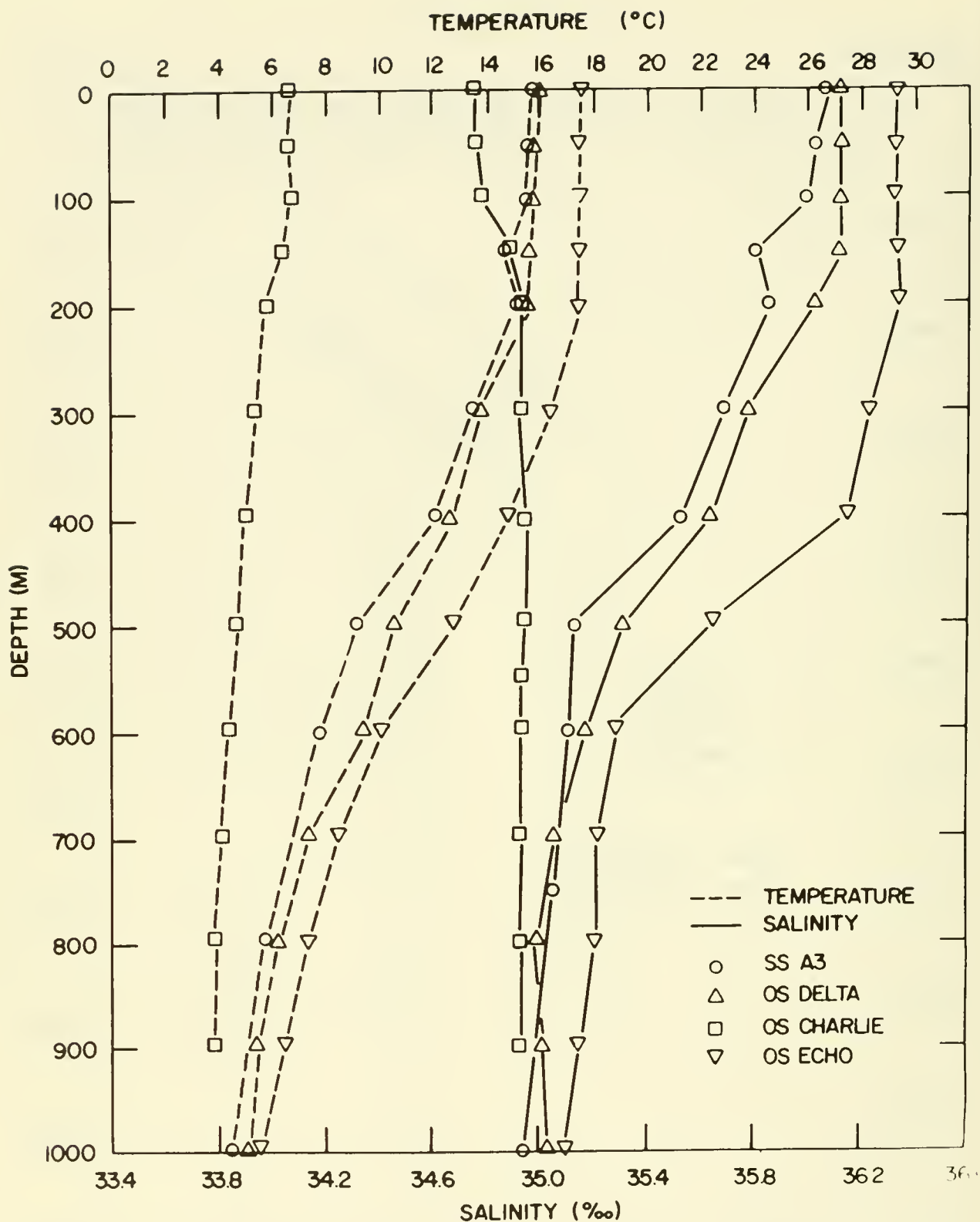


FIGURE 52. Temperature and salinity versus depth at OS DELTA, ECHO, CHARLIE, and Standard Section A-3 (station taken at 43°40'N, 43°46'W), 31 January to 3 February 1968.



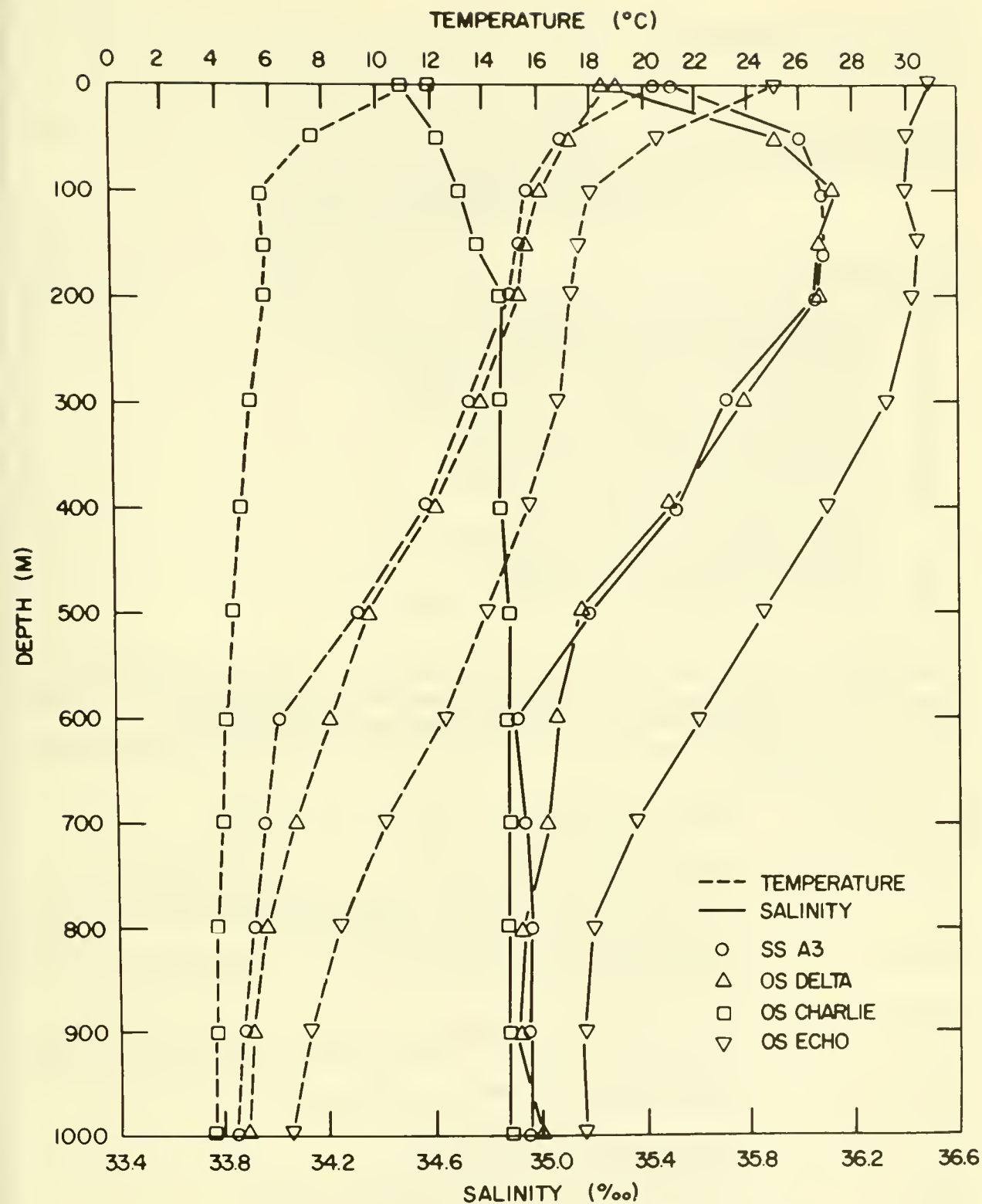


FIGURE 53. Temperature and salinity versus depth at OS DELTA, ECHO, CHARLIE, and Standard Section A-3 (station taken at 43°54'N, 45°08'W), 6 August 1968.



# APPENDIX A

## OCEANOGRAPHIC DATA

### Cruises Listed

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| II. CGC CHINCOTEAGUE, 22 September to 10 October 1967 | 66   |
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### Codes Utilized

A complete description of the codes utilized in the tabulation of oceanographic station data can be found in National Oceanographic Data Center publication M-2, Processing Physical and Chemical Data from Oceanographic Stations. (Rev. August 1964, supplement issued May 1966.)

To facilitate use of the oceanographic station data listing, entry headings which are not self-explanatory are described below.

|                             |  |
|-----------------------------|--|
| Depth to Bottom . . . . .   | Uncorrected sounding in meters.  |
| Max. Depth of Samples . . . | Depth of deepest sample to nearest multiple of one hundred meters.   |
| Wave observations           |  |
| DIR. . . . .                | Rounded to nearest multiple of 10 degrees.   |
| HGT. . . . .                | Increments of 1/2 m. Sum of 5 meters plus increments of 1/2 m if 50 is added to direction.   |
| PER. . . . .                | If numerals 2 through 9 are entered, period in seconds is twice the numeric entry or 2X (numeric entry) +1. For other entries see WMO Code 3155. |
| SEA . . . . .               | Sea state according to WMO Code 3700   |
| Weather Code . . . . .      | If preceded by X, weather according to WMO Code 4501. If a two-digit entry, weather according to WMO Code 4677.                                  |
| Cloud Code                  |  |
| Type . . . . .              | Cloud type according to WMO Code 0500.   |
| Amount . . . . .            | Cloud amount in eighths. Entry of the numeral 9 indicates cloud amount could not be estimated.   |
| Water                       |  |
| Color Code . . . . .        | Color according to Forel-Ule scale.  |
| Trans. . . . .              | Transparency in whole meters as determined by Secchi disc.   |
| Wind                        |  |
| Dir. . . . .                | Rounded to nearest multiple of 10 degrees.   |
| Speed . . . . .             | Letter S indicates wind speed in knots.  |
| Barometer . . . . .         | Barometric pressure given in tens, units and tenths of millibars.  |
| Air Temp. °C . . . . .      | Air temperature to tenths of a degree Celsius.   |
| Vis. Code . . . . .         | Visibility according to WMO Code 4300.   |
| No. obs. depths . . . . .   | Number of observed levels associated with the station.   |



|  |   |
|--|---|
| Messenger time . . . . .                       | Entered in hours and tenths of an hour GMT. For Nansen casts, indicates time of release of messenger applicable to the observational level. For STD casts, indicates the starting time of lowering the sensor.  |
| Card type . . . . .                            | OBS designates observed levels. STD indicates the values at this standard level were interpolated by a modified 3-point LaGrange formula.   |
| Depth (m) . . . . .                            | Depth to nearest meter. A postscript T indicates depth was obtained therometrically; Z indicates uncorrected "wire out" depth. Postscript Q indicates value was marked doubtful by originator; P indicates value was considered doubtful by NODC. Postscripts P and Q retain this meaning throughout the following entries. |
| T °C . . . . .                                 | Temperature to hundredths of a degree Celsius.  |
| S ‰ . . . . .                                  | Salinity in parts-per-thousand.   |
| SIGMA-T . . . . .                              | Entered to hundredths.  |
| Specific-volume . . . . .                      | Multiply entry by $10^{-7}$ to obtain specific-volume anomaly in cubic centimeters per gram.  |
| $\Sigma \Delta$ Dyn. M $\times 10^3$ . . . . . | Multiply entry by $10^{-3}$ to obtain anomaly of dynamic depth in dynamic meters referenced to the sea surface.   |
| Sound Velocity . . . . .                       | Sound velocity according to Wilson's formula entered to tenths of a meter per second.   |



TABLE I.—Observed and interpolated oceanographic data for stations taken by USCGC INGHAM at Ocean Station DELTA, 27 August–16 September 1967, prepared from NODC listing No. 31–1158 IN.

| REFERENCE<br>CTDP<br>CODE | SHIP<br>ID.<br>NO. | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MARS<br>DEN<br>SQUARE | STATION TIME<br>(GMT) |     |      | YEAR    | ORIGINATOR'S |        | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPLING | WAVE<br>OBSERVATIONS | WEA-<br>THER<br>CODE | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |               |                   |
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| REFERENCE<br>CTD CODE | SHIP<br>ID. NO. | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MARS<br>DEN<br>SQUA | STATION TIME |     | YEAR | ORIGINATOR'S |     | DEPTH<br>TO<br>BOTTOM | MAR.<br>DEPTH<br>OF<br>SAMPLING | WAVE<br>OBSERVATIONS |     | WEA-<br>THER<br>CODE | CLOUD<br>CODES |                   | NODC<br>STATION<br>NUMBER |      |
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|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |
|                       |                 |              |                    |                     |                     |              |     |      |              |     |                       |                                 |                      |     |                      |                |                   |                           |      |



TABLE I.—Continued

| REFERENCE  | SHIP CODE      | LATITUDE<br>• 1° 10' | LONGITUDE<br>• 1° 10' | MARS DEN<br>SQUARE | STATION TIME     |                         | YEAR                                      | ORIGINATOR'S                          |                   | DEPTH<br>TO<br>BOTTOM | WAVE<br>OBSERVATIONS            |                      | WEA-<br>THER<br>CODE            | CLOUD<br>CODE                   | NODC<br>STATION<br>NUMBER         |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
|--|----------------|----------------------|-----------------------|--------------------|------------------|-------------------------|---|---------------------------------------|-------------------|-----------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|-------|------|----------------|--------------|-----------|------------------|-------------------------|------------|-------------|--------------------|-------------------|--|--|--|----|-----|-----|--------|---|----|--|
|  |                |                      |                       |                    | CRUISE<br>NO.    | STATION<br>NUMBER       |   | DR                                    | HGT PER<br>SEA    |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
| 311155   | IN             | 4359 N               | 04110 W               | 149 31 08 30       | 130              | 1957                    | 010 003                                   | 4000                                  | 15 33 2           |                       |                                 |                      | 7 6                             |                                 | 0003                              |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
| <table><tr><th>WATER</th><th>WIND</th><th>BARO-<br/>METER</th><th>AIR TEMP. °C</th><th>VIS. CODE</th><th>NO. OF<br/>DEPTHS</th><th>SPECIAL<br/>OBSERVATIONS</th></tr><tr><th>COLOR CODE</th><th>TRANS. UNIT</th><th>DR. SPEED OF FORCE</th><th>DRY BULB WET BULB</th><th></th><th></th><th></th></tr><tr><td>26</td><td>516</td><td>227</td><td>24 222</td><td>7</td><td>14</td><td></td></tr></table> |                |                      |                       |                    |                  |                         |   |                                       |                   |                       |                                 |                      |                                 |                                 |                                   | WATER | WIND | BARO-<br>METER | AIR TEMP. °C | VIS. CODE | NO. OF<br>DEPTHS | SPECIAL<br>OBSERVATIONS | COLOR CODE | TRANS. UNIT | DR. SPEED OF FORCE | DRY BULB WET BULB |  |  |  | 26 | 516 | 227 | 24 222 | 7 | 14 |  |
| WATER  | WIND           | BARO-<br>METER       | AIR TEMP. °C          | VIS. CODE          | NO. OF<br>DEPTHS | SPECIAL<br>OBSERVATIONS |   |                                       |                   |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
| COLOR CODE   | TRANS. UNIT    | DR. SPEED OF FORCE   | DRY BULB WET BULB     |                    |                  |                         |   |                                       |                   |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
| 26   | 516            | 227                  | 24 222                | 7                  | 14               |                         |   |                                       |                   |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
| MESSAGE<br>TIME<br>NR 1/10   | CASSETT<br>NO. | CARD<br>TYPE         | DEPTH (m)             | T °C               | S ‰              | SIGMA-T                 | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> | Σ Δ σ<br>DYN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l   | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH    | DATE |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
|  |                | STD                  | 0000                  | 2324               | 3631             | 2488                    | 0330810                                   | 0000                                  | 15321             |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
| 130  |                | ORS                  | 0000                  | 2324               | 36314            | 2488                    |   |                                       | 15321             |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
|  |                | STD                  | 0010                  | 2324               | 3631             | 2488                    | 0030881                                   | 0031                                  | 15322             |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
|  |                | STD                  | 0020                  | 2325               | 3631             | 2487                    | 0030739                                   | 0002                                  | 15324             |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
| 133  |                | ORS                  | 0025                  | 2325               | 36310            | 2487                    |   |                                       | 15325             |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
|  |                | STD                  | 0030                  | 2284               | 3634             | 2502                    | 0029643                                   | 0092                                  | 15316             |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
|  |                | STD                  | 0050                  | 2137               | 3644             | 2551                    | 0025044                                   | 0147                                  | 15283             |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
| 130  |                | ORS                  | 0051                  |                    | 36446            |                         |   |                                       |                   |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
|  |                | STD                  | 0075                  | 1992               | 3651             | 2533                    | 0020891                                   | 0204                                  | 15249             |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
|  |                | STD                  | 0100                  | 1890               | 3654             | 2624                    | 0018231                                   | 0253                                  | 15225             |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
| 130  |                | ORS                  | 0103                  | 1881               | 36543            | 2627                    |   |                                       | 15223             |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
|  |                | STD                  | 0145                  | 1853               | 3653             | 2633                    | 0017493                                   | 0298                                  | 15215             |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
|  |                | STD                  | 0150                  | 1824               | 3651             | 2639                    | 0017027                                   | 0341                                  | 15214             |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
| 130  |                | ORS                  | 0154                  | 1819               | 36507            | 2640                    |   |                                       | 15214             |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
|  |                | STD                  | 0200                  | 1769               | 3647             | 2644                    | 0016183                                   | 0424                                  | 15206             |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
| 130  |                | ORS                  | 0205                  | 1764               | 36467            | 2650                    |   |                                       | 15206             |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
|  |                | STD                  | 0250                  | 1749               | 3644             | 2652                    | 0015076                                   | 0505                                  | 15208             |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
|  |                | STD                  | 0300                  | 1710               | 3637             | 2656                    | 0015864                                   | 0584                                  | 15204             |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
| 130  |                | ORS                  | 0308                  | 1702               | 36354            | 2657                    |   |                                       | 15203             |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
|  |                | STD                  | 0400                  | 1563               | 3610             | 2670                    | 0014813                                   | 0738                                  | 15173             |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
| 130  |                | ORS                  | 0410                  | 1549               | 36073            | 2671                    |   |                                       | 15170             |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
|  |                | STD                  | 0500                  | 1422               | 3586             | 2682                    | 0013815                                   | 0881                                  | 15142             |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
| 130  |                | ORS                  | T0510                 | 1405               | 35836            | 2684                    |   |                                       | 15138             |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
|  |                | STD                  | 0600                  | 1354               | 3579             | 2691                    | 0013172                                   | 1016                                  | 15135             |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
| 130  |                | ORS                  | 0614                  | 1340               | 35769            | 2692                    |   |                                       | 15132             |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
|  |                | STD                  | 0700                  | 1163               | 3550             | 2707                    | 0011779                                   | 1141                                  | 15083             |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
|  |                | STD                  | 0800                  | 0987               | 3527             | 2720                    | 0010462                                   | 1252                                  | 15034             |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
| 130  |                | ORS                  | T0818                 | 0958               | 35241            | 2723                    |   |                                       | 15026             |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
|  |                | STD                  | 0900                  | 0845               | 3518             | 2737                    | 0008904                                   | 1349                                  | 14997             |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
|  |                | STD                  | 1000                  | 0726               | 3512             | 2750                    | 0007618                                   | 1431                                  | 14967             |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
| 130  |                | ORS                  | 1021                  | 0704               | 35108            | 2752                    |   |                                       | 14962             |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
|  |                | STD                  | 1100                  | 0626               | 3506             | 2759                    | 0006701                                   | 1503                                  | 14944             |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
|  |                | STD                  | 1200                  | 0549               | 3503             | 2766                    | 0005944                                   | 1566                                  | 14929             |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
| 130  |                | ORS                  | 1270                  | 0510               | 35013            | 2770                    |   |                                       | 14925             |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
|  |                | STD                  | 1300                  | 0505               | 3502             | 2770                    | 0005544                                   | 1624                                  | 14928             |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
|  |                | STD                  | 1400                  | 0489               | 3503             | 2773                    | 0005343                                   | 1678                                  | 14938             |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
|  |                | STD                  | 1500                  | 0473               | 3504             | 2776                    | 0005132                                   | 1731                                  | 14949             |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |
| 130  |                | ORS                  | T1518                 | 0470               | 35044            | 2777                    |   |                                       | 14950             |                       |                                 |                      |                                 |                                 |                                   |       |      |                |              |           |                  |                         |            |             |                    |                   |  |  |  |    |     |     |        |   |    |  |

| REFERENCE  |             | SHIP CODE  | LATITUDE<br>° 10' | LONGITUDE<br>° 10' | MARSDEN SQUARE |           | STATION TIME                           |                                 | YEAR           | ORIGINATOR'S         |                              | DEPTH TO BOTTOM   | MAL. DEPTH OF S'PL.          | WAVE OBSERVATIONS            |                                |     | WEATHER CODE | CLOUD CODE | NODC STATION NUMBER |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
|--|-------------|------------|-------------------|--------------------|----------------|-----------|--|---------------------------------|----------------|----------------------|------------------------------|-------------------|------------------------------|------------------------------|--------------------------------|-----|--------------|------------|---------------------|------|-------|------|------------|--|--------------|--|-----------|--|-----------------|--|----------------------|--|------------|-------------|------|----------------|----------|----------|--|--|--|--|--|--|--|--|----|-----|-----|-----|-----|---|----|--|--|--|
| CRUISE NO.   | NO.         |            |                   |                    | 10"            | 1"        | MO                                     | DAY                             | HR LT/10       |                      | CRUISE NO.                   | STATION NUMBER    |                              |                              | DR                             | HGT | PER          | SEA        | TIME                | HEAT |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
| 311158   | IN          |            | 4412 N            | 04045 W            | 149            | 40        | 08                                     | 31                              | 127            | 1967                 | 010                          | 004               | 4572                         | 15                           | 29                             | 1   |              |            | 6                   | 3    | 0004  |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
| <table><tr><th>WATER</th><th>WIND</th><th colspan="2">BARO-METER</th><th colspan="2">AIR TEMP. °C</th><th colspan="2">VIS. CODE</th><th colspan="2">NO. OBS. DEPTHS</th><th colspan="2">SPECIAL OBSERVATIONS</th></tr><tr><th>COLOR CODE</th><th>TRANS. UNIT</th><th>DIR.</th><th>SPEED OF FORCE</th><th>DRY BULB</th><th>WET BULB</th><th></th><th></th><th></th><th></th><th></th><th></th></tr><tr><td></td><td></td><td>25</td><td>505</td><td>269</td><td>239</td><td>233</td><td>7</td><td>14</td><td></td><td></td><td></td></tr></table> |             |            |                   |                    |                |           |  |                                 |                |                      |                              |                   |                              |                              |                                |     |              |            |                     |      | WATER | WIND | BARO-METER |  | AIR TEMP. °C |  | VIS. CODE |  | NO. OBS. DEPTHS |  | SPECIAL OBSERVATIONS |  | COLOR CODE | TRANS. UNIT | DIR. | SPEED OF FORCE | DRY BULB | WET BULB |  |  |  |  |  |  |  |  | 25 | 505 | 269 | 239 | 233 | 7 | 14 |  |  |  |
| WATER  | WIND        | BARO-METER |                   | AIR TEMP. °C       |                | VIS. CODE |  | NO. OBS. DEPTHS                 |                | SPECIAL OBSERVATIONS |                              |                   |                              |                              |                                |     |              |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
| COLOR CODE   | TRANS. UNIT | DIR.       | SPEED OF FORCE    | DRY BULB           | WET BULB       |           |  |                                 |                |                      |                              |                   |                              |                              |                                |     |              |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
|  |             | 25         | 505               | 269                | 239            | 233       | 7                                      | 14                              |                |                      |                              |                   |                              |                              |                                |     |              |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
| MESSAGE TIME & NO.   | CASSETT NO. | CARD TYPE  | DEPTH (m)         | T °C               | S ‰            | SIGMA-T   | SPECIFIC VOLUME ANOMALY-σ <sub>t</sub> | Σ Δ σ DYN. M. x 10 <sup>3</sup> | SOUND VELOCITY | O <sub>2</sub> ml/l  | PO <sub>4</sub> -P μg - ml/l | TOTAL-P μg - ml/l | NO <sub>3</sub> -N μg - ml/l | NO <sub>3</sub> -N μg - ml/l | SiO <sub>4</sub> -Si μg - ml/l | pH  | DATE         |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
|  |             | STD        | 0000              | 2345               | 3627           | 2478      | 0031808                                | 0000                            | 15326          |                      |                              |                   |                              |                              |                                |     |              |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
| 127  |             | ORS        | 0000              | 2349               | 36273          | 2478      |  |                                 | 15326          |                      |                              |                   |                              |                              |                                |     |              |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
|  |             | STD        | 0010              | 2344               | 3628           | 2480      | 0031652                                | 0032                            | 15327          |                      |                              |                   |                              |                              |                                |     |              |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
|  |             | STD        | 0020              | 2339               | 3530           | 2453      | 0031403                                | 0063                            | 15327          |                      |                              |                   |                              |                              |                                |     |              |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
| 127  |             | ORS        | 0025              | 2336               | 36311          | 2484      |  |                                 | 15328          |                      |                              |                   |                              |                              |                                |     |              |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
|  |             | STD        | 0030              | 2272               | 3634           | 2505      | 0029314                                | 0094                            | 15313          |                      |                              |                   |                              |                              |                                |     |              |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
|  |             | STD        | 0050              | 2063               | 3643           | 2570      | 0023187                                | 0146                            | 15263          |                      |                              |                   |                              |                              |                                |     |              |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
| 127  |             | ORS        | 0051              | 2054               | 36435          | 2573      |  |                                 | 15261          |                      |                              |                   |                              |                              |                                |     |              |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
|  |             | STD        | 0075              | 1944               | 3647           | 2605      | 0019979                                | 0200                            | 15236          |                      |                              |                   |                              |                              |                                |     |              |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
|  |             | STD        | 0100              | 1857               | 3647           | 2627      | 0017935                                | 0247                            | 15215          |                      |                              |                   |                              |                              |                                |     |              |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
| 127  |             | ORS        | 0102              | 1851               | 36474          | 2629      |  |                                 | 15214          |                      |                              |                   |                              |                              |                                |     |              |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
|  |             | STD        | 0125              | 1807               | 3645           | 2638      | 0016959                                | 0291                            | 15205          |                      |                              |                   |                              |                              |                                |     |              |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
|  |             | STD        | 0150              | 1770               | 3642           | 2645      | 0016375                                | 0333                            | 15198          |                      |                              |                   |                              |                              |                                |     |              |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
| 127  |             | ORS        | 0152              | 1764               | 36421          | 2646      |  |                                 | 15198          |                      |                              |                   |                              |                              |                                |     |              |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
|  |             | STD        | 0200              | 1736               | 3641           | 2653      | 0015844                                | 0413                            | 15196          |                      |                              |                   |                              |                              |                                |     |              |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
| 127  |             | ORS        | T0205             | 1722               | 36403          | 2653      |  |                                 | 15195          |                      |                              |                   |                              |                              |                                |     |              |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
|  |             | STD        | 0250              | 1652               | 3633           | 2657      | 0015573                                | 0492                            | 15190          |                      |                              |                   |                              |                              |                                |     |              |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
|  |             | STD        | 0300              | 1642               | 3624           | 2662      | 0015248                                | 0509                            | 15182          |                      |                              |                   |                              |                              |                                |     |              |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
| 127  |             | ORS        | 0305              | 1637               | 36227          | 2662      |  |                                 | 15181          |                      |                              |                   |                              |                              |                                |     |              |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
|  |             | STD        | 0400              | 1524               | 3603           | 2673      | 0014466                                | 0717                            | 15160          |                      |                              |                   |                              |                              |                                |     |              |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
| 127  |             | ORS        | 0406              | 1510               | 36014          | 2674      |  |                                 | 15159          |                      |                              |                   |                              |                              |                                |     |              |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
|  |             | STD        | 0500              | 1386               | 3560           | 2685      | 0013501                                | 0857                            | 15129          |                      |                              |                   |                              |                              |                                |     |              |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
| 127  |             | ORS        | T0507             | 1378               | 35787          | 2686      |  |                                 | 15128          |                      |                              |                   |                              |                              |                                |     |              |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
|  |             | STD        | 0600              | 1308               | 3573           | 2696      | 0012691                                | 0988                            | 15119          |                      |                              |                   |                              |                              |                                |     |              |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
| 127  |             | ORS        | 0607              | 1300               | 35720          | 2697      |  |                                 | 15117          |                      |                              |                   |                              |                              |                                |     |              |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
|  |             | STD        | 0700              | 1107               | 3543           | 2712      | 0011238                                | 1108                            | 15063          |                      |                              |                   |                              |                              |                                |     |              |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
|  |             | STD        | 0800              | 0923               | 3521           | 2720      | 0009795                                | 1213                            | 15010          |                      |                              |                   |                              |                              |                                |     |              |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
| 127  |             | ORS        | T0806             | 0913               | 35197          | 2727      |  |                                 | 15007          |                      |                              |                   |                              |                              |                                |     |              |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
|  |             | STD        | 0900              | 0755               | 3510           | 2744      | 0008051                                | 1302                            | 14962          |                      |                              |                   |                              |                              |                                |     |              |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
|  |             | STD        | 1000              | 0627               | 3503           | 2750      | 0006795                                | 1377                            | 14927          |                      |                              |                   |                              |                              |                                |     |              |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
| 127  |             | ORS        | 1010              | 0617               | 35021          | 2757      |  |                                 | 14925          |                      |                              |                   |                              |                              |                                |     |              |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
|  |             | STD        | 1100              | 0541               | 3502           | 2760      | 0005612                                | 1440                            | 14909          |                      |                              |                   |                              |                              |                                |     |              |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
|  |             | STD        | 1200              | 0457               | 3501           | 2771      | 0005370                                | 1495                            | 14908          |                      |                              |                   |                              |                              |                                |     |              |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
| 127  |             | ORS        | T1264             | 0440               | 35006          | 2771      |  |                                 | 14916          |                      |                              |                   |                              |                              |                                |     |              |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |
| 127  |             | ORS        | 15170             | 0425               | 34555          | 27770     |  |                                 |                |                      |                              |                   |                              |                              |                                |     |              |            |                     |      |       |      |            |  |              |  |           |  |                 |  |                      |  |            |             |      |                |          |          |  |  |  |  |  |  |  |  |    |     |     |     |     |   |    |  |  |  |



TABLE I.—Continued

| REFERENCE                  |               | SHIP<br>CODE | LATITUDE<br>+ 1/10 | LONGITUDE<br>+ 1/10  | TIME<br>ZONE           | MARSSEN<br>SQUARE | STATION TIME<br>(GMT)                  |  |                      | YEAR                    | ORIGINATOR'S  |  | DEPTH<br>TO<br>BOTTOM                                   | MAX.<br>DEPTH<br>OF<br>SAMPLE                           | WAVE<br>OBSERVATIONS                                      |      |            | WEA-<br>THER<br>CODE | CLOUD<br>CODES |  | NDDC<br>STATION<br>NUMBER |
|----------------------------|---------------|--------------|--------------------|----------------------|------------------------|-------------------|--|--|----------------------|-------------------------|---|--|---|---|---|------|------------|----------------------|----------------|--|---------------------------|
| CIRCUIT<br>CODE            | ID. NO.       |              |                    |                      |                        |                   | CRUISE<br>NO.                          | STATION<br>NUMBER                                  | DIR.                 |                         | HGT   | PER  |   |   | SEA   | TYPE | AMT        |                      |                |  |                           |
| 311158                     | IN            | 4356 N       | 04048 W            | 149                  | 30                     | 09 02 148         | 1967                                   | 010  | 005                  | 4770                    | 15  | 26   | 1   |   |   |      | 0          | 3                    |                |  | 0005                      |
|                            |               |              |                    |                      |                        |                   |  |  |                      |                         |   |  |   |   |   |      |            |                      |                |  |                           |
| WATER                      |               | WIND         |                    | SPEED<br>OF<br>FORCE | BARO-<br>METER<br>(mb) | AIR TEMP. °C      |  | VIL<br>CODE  | NO.<br>OBS.<br>DEPTH | SPECIAL<br>OBSERVATIONS |   |  |   |   |   |      |            |                      |                |  |                           |
| COLOR<br>CODE              | TRANS.<br>(m) | DIR.         | DIR.               |                      |                        | DRY<br>BULB       | WET<br>BULB                            |  |                      |                         |   |  |   |   |   |      |            |                      |                |  |                           |
|                            |               |              |                    | 26                   | 505                    | 288               | 250                                    | 233  | 7                    | 14                      |   |  |   |   |   |      |            |                      |                |  |                           |
| MESSAGE<br>TIME<br>HR 1/10 | CAS<br>NO.    | CARD<br>TYPE | DEPTH (m)          | T °C                 | S ‰                    | SIGMA-T           | SPECIFIC VOLUME<br>ANOMALY- $\sigma_t$ | $\Sigma \Delta \sigma$<br>DYN. M.<br>$\times 10^3$ | SOUND<br>VELOCITY    | D <sub>2</sub> (m)      | PO <sub>4</sub> -P<br>$\mu\text{g} \cdot \text{m}^{-3}$ | TOTAL-P<br>$\mu\text{g} \cdot \text{m}^{-3}$ | NO <sub>2</sub> -N<br>$\mu\text{g} \cdot \text{m}^{-3}$ | NO <sub>3</sub> -N<br>$\mu\text{g} \cdot \text{m}^{-3}$ | SiO <sub>4</sub> -Si<br>$\mu\text{g} \cdot \text{m}^{-3}$ | pH   | TEMP<br>°C |                      |                |  |                           |
|                            |               | STO          | 0000               | 2339                 | 3509                   | 2391              | 0040076                                | 0000   | 15310                |                         |   |  |   |   |   |      |            |                      |                |  |                           |
| 128                        |               | OBS          | 0000               | 2339                 | 35088                  | 2391              |  |  | 15310                |                         |   |  |   |   |   |      |            |                      |                |  |                           |
|                            |               | STO          | 0010               | 2205                 | 3536                   | 2450              | 0034498                                | 0037   | 15281                |                         |   |  |   |   |   |      |            |                      |                |  |                           |
|                            |               | STO          | 0020               | 2097                 | 3557                   | 2495              | 0030173                                | 0070   | 15257                |                         |   |  |   |   |   |      |            |                      |                |  |                           |
| 128                        |               | OBS          | 0024               | 2061                 | 35638                  | 2510              |  |  | 15249                |                         |   |  |   |   |   |      |            |                      |                |  |                           |
|                            |               | STO          | 0030               | 2029                 | 3567                   | 2521              | 0027741                                | 0099   | 15242                |                         |   |  |   |   |   |      |            |                      |                |  |                           |
|                            |               | STO          | 0050               | 1928                 | 3581                   | 2559              | 0024280                                | 0151   | 15219                |                         |   |  |   |   |   |      |            |                      |                |  |                           |
| 128                        |               | OBS          | 0050               | 1928                 | 35809                  | 2559              |  |  | 15219                |                         |   |  |   |   |   |      |            |                      |                |  |                           |
|                            |               | STO          | 0075               | 1805                 | 3610                   | 2612              | 0019280                                | 0205   | 15192                |                         |   |  |   |   |   |      |            |                      |                |  |                           |
|                            |               | STO          | 0100               | 1710                 | 3625                   | 2646              | 0016096                                | 0249   | 15170                |                         |   |  |   |   |   |      |            |                      |                |  |                           |
| 128                        |               | OBS          | 0100               | 1710                 | 36246                  | 2646              |  |  | 15170                |                         |   |  |   |   |   |      |            |                      |                |  |                           |
|                            |               | STO          | 0125               | 1653                 | 3618                   | 2655              | 0015363                                | 0289   | 15156                |                         |   |  |   |   |   |      |            |                      |                |  |                           |
|                            |               | STO          | 0150               | 1603                 | 3612                   | 2662              | 0014786                                | 0326   | 15144                |                         |   |  |   |   |   |      |            |                      |                |  |                           |
| 128                        |               | OBS          | 0150               | 1603                 | 36117                  | 2662              |  |  | 15144                |                         |   |  |   |   |   |      |            |                      |                |  |                           |
|                            |               | STO          | 0200               | 1523                 | 3600                   | 2671              | 0014051                                | 0398   | 15126                |                         |   |  |   |   |   |      |            |                      |                |  |                           |
| 128                        |               | OBS          | T0200              | 1523                 | 36000                  | 2671              |  |  | 15126                |                         |   |  |   |   |   |      |            |                      |                |  |                           |
|                            |               | STO          | 0250               | 1450                 | 3587                   | 2677              | 0013601                                | 0468   | 15110                |                         |   |  |   |   |   |      |            |                      |                |  |                           |
| 128                        |               | OBS          | 0298               | 1396                 | 35790                  | 2682              |  |  | 15099                |                         |   |  |   |   |   |      |            |                      |                |  |                           |
|                            |               | STO          | 0300               | 1395                 | 3579                   | 2683              | 0013191                                | 0534   | 15099                |                         |   |  |   |   |   |      |            |                      |                |  |                           |
| 128                        |               | OBS          | 0394               | 1334                 | 35751                  | 2692              |  |  | 15094                |                         |   |  |   |   |   |      |            |                      |                |  |                           |
|                            |               | STO          | 0400               | 1331                 | 3575                   | 2693              | 0012482                                | 0663   | 15094                |                         |   |  |   |   |   |      |            |                      |                |  |                           |
| 128                        |               | OBS          | T0488              | 1288                 | 35699                  | 2698              |  |  | 15093                |                         |   |  |   |   |   |      |            |                      |                |  |                           |
|                            |               | STO          | 0500               | 1262                 | 3565                   | 2699              | 0012094                                | 0786   | 15086                |                         |   |  |   |   |   |      |            |                      |                |  |                           |
| 128                        |               | OBS          | 0580               | 1102                 | 35362                  | 2707              |  |  | 15040                |                         |   |  |   |   |   |      |            |                      |                |  |                           |
|                            |               | STO          | 0600               | 1067                 | 3552                   | 2710              | 0011081                                | 0902   | 15031                |                         |   |  |   |   |   |      |            |                      |                |  |                           |
| 128                        |               | STO          | 0700               | 0905                 | 3517                   | 2726              | 0009588                                | 1005   | 14986                |                         |   |  |   |   |   |      |            |                      |                |  |                           |
|                            |               | OBS          | T0772              | 0804                 | 35092                  | 2736              |  |  | 14959                |                         |   |  |   |   |   |      |            |                      |                |  |                           |
|                            |               | STO          | 0800               | 0769                 | 3509                   | 2741              | 0008173                                | 1094   | 14950                |                         |   |  |   |   |   |      |            |                      |                |  |                           |
| 128                        |               | STO          | 0900               | 0657                 | 3506                   | 2755              | 0006807                                | 1169   | 14923                |                         |   |  |   |   |   |      |            |                      |                |  |                           |
|                            |               | OBS          | 0968               | 0596                 | 35048                  | 2762              |  |  | 14910                |                         |   |  |   |   |   |      |            |                      |                |  |                           |
|                            |               | STO          | 1000               | 0571                 | 3504                   | 2764              | 0005926                                | 1233   | 14905                |                         |   |  |   |   |   |      |            |                      |                |  |                           |
| 128                        |               | STO          | 1100               | 0509                 | 3502                   | 2770              | 0005345                                | 1289   | 14896                |                         |   |  |   |   |   |      |            |                      |                |  |                           |
|                            |               | STO          | 1200               | 0472                 | 3500                   | 2773              | 0005107                                | 1342   | 14897                |                         |   |  |   |   |   |      |            |                      |                |  |                           |
|                            |               | OBS          | T1215              | 0468                 | 34993                  | 2773              |  |  | 14898                |                         |   |  |   |   |   |      |            |                      |                |  |                           |
| 128                        |               | OBS          | 14620              | 0414                 | 34564                  | 27760             |  |  |                      |                         |   |  |   |   |   |      |            |                      |                |  |                           |

| REFERENCE<br>CIRCUIT<br>ID. NO. | SHIP<br>CODE  | LATITUDE<br>+ 1/10 | LONGITUDE<br>+ 1/10 | TIME<br>ZONE         | MARSSEN<br>SQUARE      | STATION TIME<br>(GMT) | YEAR                                      | ORIGINATOR'S                          |                      | DEPTH<br>TO<br>BOTTOM   | MAX.<br>DEPTH<br>OF<br>SAMPLE              | WAVE<br>OBSERVATIONS            |  |  | WEA-<br>THER<br>CODE                         | CLOUD<br>CODES |            | NDDC<br>STATION<br>NUMBER |     |
|---------------------------------|---------------|--------------------|---------------------|----------------------|------------------------|-----------------------|---|---------------------------------------|----------------------|-------------------------|--|---------------------------------|--|--|--|----------------|------------|---------------------------|-----|
|                                 |               |                    |                     |                      |                        |                       |   | CRUISE<br>NO.                         | STATION<br>NUMBER    |                         |  | DIR.                            | HGT  | PER  |  | SEA            | TYPE       |                           | AMT |
|                                 |               |                    |                     |                      |                        |                       |   |                                       |                      |                         |  |                                 |  |  |  |                |            |                           |     |
| 311158                          | IN            | 4342 N             | 04101 W             | 145                  | 31                     | 09 03 127             | 1967                                      | 010                                   | 006                  | 4600                    | 15   | 26                              | 2  |  |  | 18             | 8 6        | 0006                      |     |
|                                 |               |                    |                     |                      |                        |                       |   |                                       |                      |                         |  |                                 |  |  |  |                |            |                           |     |
| WATER                           |               | WIND               |                     | SPEED<br>OF<br>FORCE | BARO-<br>METER<br>(mb) | AIR TEMP. °C          |   | VIL<br>CODE                           | NO.<br>OBS.<br>DEPTH | SPECIAL<br>OBSERVATIONS |  |                                 |  |  |  |                |            |                           |     |
| COLOR<br>CODE                   | TRANS.<br>(m) | DIR.               | DIR.                |                      |                        | DRY<br>BULB           | WET<br>BULB                               |                                       |                      |                         |  |                                 |  |  |  |                |            |                           |     |
|                                 |               |                    |                     | 21                   | 506                    | 284                   | 233                                       | 222                                   | 7                    | 14                      |  |                                 |  |  |  |                |            |                           |     |
| MESSAGE<br>TIME<br>HR 1/10      | CAS<br>NO.    | CARD<br>TYPE       | DEPTH (m)           | T °C                 | S ‰                    | SIGMA-T               | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> | Σ Δ σ<br>DYN. M.<br>× 10 <sup>3</sup> | SOUND<br>VELOCITY    | D <sub>2</sub> (m)      | PO <sub>4</sub> -P<br>μg · m <sup>-3</sup> | TOTAL-P<br>μg · m <sup>-3</sup> | NO <sub>2</sub> -N<br>μg · m <sup>-3</sup> | NO <sub>3</sub> -N<br>μg · m <sup>-3</sup> | SiO <sub>4</sub> -Si<br>μg · m <sup>-3</sup> | pH             | TEMP<br>°C |                           |     |
|                                 |               | STO                | 0000                | 2180                 | 3552                   | 2469                  | 0032616                                   | 0000                                  | 15275                |                         |  |                                 |  |  |  |                |            |                           |     |
| 127                             |               | OBS                | 0000                | 2180                 | 35523                  | 2469                  |   |                                       | 15275                |                         |  |                                 |  |  |  |                |            |                           |     |
|                                 |               | STO                | 0010                | 2073                 | 3551                   | 2497                  | 0029979                                   | 0031                                  | 15249                |                         |  |                                 |  |  |  |                |            |                           |     |
|                                 |               | STO                | 0020                | 1984                 | 3549                   | 2520                  | 0027881                                   | 0050                                  | 15226                |                         |  |                                 |  |  |  |                |            |                           |     |
| 127                             |               | OBS                | 0025                | 1946                 | 35480                  | 2529                  |   |                                       | 15216                |                         |  |                                 |  |  |  |                |            |                           |     |
|                                 |               | STO                | 0030                | 1920                 | 3556                   | 2542                  | 0025817                                   | 0087                                  | 15211                |                         |  |                                 |  |  |  |                |            |                           |     |
|                                 |               | STO                | 0050                | 1825                 | 3584                   | 2587                  | 0021554                                   | 0134                                  | 15190                |                         |  |                                 |  |  |  |                |            |                           |     |
| 127                             |               | OBS                | 0050                | 1825                 | 35841                  | 2587                  |   |                                       | 15190                |                         |  |                                 |  |  |  |                |            |                           |     |
|                                 |               | STO                | 0075                | 1721                 | 3600                   | 2625                  | 0018074                                   | 0184                                  | 15166                |                         |  |                                 |  |  |  |                |            |                           |     |
|                                 |               | STO                | 0100                | 1637                 | 3615                   | 2657                  | 0015111                                   | 0225                                  | 15147                |                         |  |                                 |  |  |  |                |            |                           |     |
| 127                             |               | OBS                | 0101                | 1634                 | 36160                  | 2658                  |   |                                       | 15146                |                         |  |                                 |  |  |  |                |            |                           |     |
|                                 |               | STO                | 0125                | 1580                 | 3608                   | 2664                  | 0014470                                   | 0262                                  | 15133                |                         |  |                                 |  |  |  |                |            |                           |     |
|                                 |               | STO                | 0150                | 1528                 | 3600                   | 2670                  | 0014026                                   | 0298                                  | 15120                |                         |  |                                 |  |  |  |                |            |                           |     |
| 127                             |               | OBS                | 0150                | 1528                 | 35997                  | 2670                  |   |                                       | 15120                |                         |  |                                 |  |  |  |                |            |                           |     |
|                                 |               | STO                | 0200                | 1439                 | 3585                   | 2677                  | 0013399                                   | 0367                                  | 15098                |                         |  |                                 |  |  |  |                |            |                           |     |
| 127                             |               | OBS                | T0202               | 1436                 | 35840                  | 2678                  |   |                                       | 15097                |                         |  |                                 |  |  |  |                |            |                           |     |
|                                 |               | STO                | 0250                | 1377                 | 3575                   | 2683                  | 0012973                                   | 0433                                  | 15085                |                         |  |                                 |  |  |  |                |            |                           |     |
|                                 |               | STO                | 0300                | 1339                 | 3571                   | 2688                  | 0012641                                   | 0497                                  | 15080                |                         |  |                                 |  |  |  |                |            |                           |     |
| 127                             |               | OBS                | 0302                | 1338                 | 35708                  | 2688                  |   |                                       | 15080                |                         |  |                                 |  |  |  |                |            |                           |     |
|                                 |               | STO                | 0400                | 1335                 | 3578                   | 2694                  | 0012327                                   | 0621                                  | 15096                |                         |  |                                 |  |  |  |                |            |                           |     |
| 127                             |               | OBS                | 0402                | 1333                 | 35782                  | 2695                  |   |                                       | 15095                |                         |  |                                 |  |  |  |                |            |                           |     |
|                                 |               | STO                | 0500                | 1169                 | 3545                   | 2702                  | 0011769                                   | 0742                                  | 15052                |                         |  |                                 |  |  |  |                |            |                           |     |
| 127                             |               | OBS                | T0506               | 1158                 | 35431                  | 2702                  |   |                                       | 15049                |                         |  |                                 |  |  |  |                |            |                           |     |
|                                 |               | STO                | 0600                | 0982                 | 3520                   | 2716                  | 0010465                                   | 0853                                  | 14998                |                         |  |                                 |  |  |  |                |            |                           |     |
| 127                             |               | OBS                | 0603                | 0977                 | 35193                  | 2716                  |   |                                       | 14997                |                         |  |                                 |  |  |  |                |            |                           |     |
|                                 |               | STO                | 0700                | 0841                 | 3512                   | 2733                  | 0008910                                   | 0950                                  | 14962                |                         |  |                                 |  |  |  |                |            |                           |     |
|                                 |               | STO                | 0800                | 0722                 | 3505                   | 2744                  | 0007786                                   | 1033                                  | 14931                |                         |  |                                 |  |  |  |                |            |                           |     |
| 127                             |               | OBS                | T0804               | 0718                 | 35042                  | 2745                  |   |                                       | 14931                |                         |  |                                 |  |  |  |                |            |                           |     |
|                                 |               | STO                | 0900                | 0626                 | 3504                   | 2757                  | 0006566                                   | 1105                                  | 14910                |                         |  |                                 |  |  |  |                |            |                           |     |
|                                 |               | STO                | 1000                | 0550                 | 3504                   | 2767                  | 0005635                                   | 1166                                  | 14896                |                         |  |                                 |  |  |  |                |            |                           |     |
| 127                             |               | OBS                | 1006                | 0540                 | 35038                  | 2767                  |   |                                       | 14896                |                         |  |                                 |  |  |  |                |            |                           |     |
|                                 |               | STO                | 1100                | 0505                 | 3501                   | 2770                  | 0005364                                   | 1221                                  | 14894                |                         |  |                                 |  |  |  |                |            |                           |     |
|                                 |               | STO                | 1200                | 0469                 | 3499                   | 2772                  | 0005140                                   | 1274                                  | 14896                |                         |  |                                 |  |  |  |                |            |                           |     |
| 127                             |               | OBS                | T1258               | 0452                 | 34979                  | 2773                  |   |                                       | 14899                |                         |  |                                 |  |  |  |                |            |                           |     |
|                                 |               | STO                | 1300                | 0441                 | 3497                   | 2774                  | 0005019                                   | 1325                                  | 14901                |                         |  |                                 |  |  |  |                |            |                           |     |
|                                 |               | STO                | 1400                | 0420                 | 3496                   | 2775                  | 0004912                                   | 1374                                  | 14905                |                         |  |                                 |  |  |  |                |            |                           |     |
|                                 |               | STO                | 1503                | 0406                 | 3496                   | 2777                  | 0004820                                   | 1423                                  | 14920                |                         |  |                                 |  |  |  |                |            |                           |     |
| 127                             |               | OBS                | T1510               | 0405                 | 34957                  | 2777                  |   |                                       | 14921                |                         |  |                                 |  |  |  |                |            |                           |     |



TABLE I.—Continued

| REFERENCE         |           | SHIP CODE        | LATITUDE<br>°    ' / 10" | LONGITUDE<br>°    ' / 10" | MARENG SQUARE |       | STATION TIME (GMT) |  | YEAR                               | ORIGINATOR'S<br>CRUISE NO.      STATION NUMBER |                     | DEPTH TO BOTTOM                           | MAX. DEPTH<br>OF S'WPL'S       | WAVE OBSERVATIONS                         |   |   |     | WEATHER CODE | CLOUD CODES | NODIC STATION NUMBER |      |
|-------------------|-----------|------------------|--------------------------|---------------------------|---------------|-------|--------------------|--|------------------------------------|--|---------------------|---|--------------------------------|---|---|---|-----|--------------|-------------|----------------------|------|
| CTRY CODE         | ID. NO.   |                  |                          |                           | 10'           | 1"    | MD                 | DAT  | HRL                                | MIN  |                     |   |                                | DIR                                       | HGT                                       | PER   | SEA |              | TIM         | Amt                  |      |
| 3F1158            | 1N        | 4411 N           | 1/10                     | 04058 W                   | 149           | 40    | 09                 | 05   | 129                                | 1967   | 010                 | 008                                       | 6600                           | 17  | 26  | 4   |     |              | 0           | 3                    | 0008 |
|                   |           | WATER COLOR CODE | WIND SPEED METER DIR.    | BAROMETER PRESSURE (mb)   | AIR TEMP. °C  |       | VIS CODE           | NO. OBS. DEPTHS                            |                                    | SPECIAL OBSERVATIONS                           |                     |   |                                |   |   |   |     |              |             |                      |      |
|                   |           | 22               | 514                      | 186                       | 244           |       | 228                | 7  | 14                                 |  |                     |   |                                |   |   |   |     |              |             |                      |      |
| MESSAGE SHIP # HR | TIME 1/10 | CAST NO.         | CARD TYPE                | DEPTH (m)                 | T °C          | S ‰   | SIGMA-T            | SPECIFIC VOLUME ANOMALY-σ <sub>t</sub> (P) | Σ Δ D DENS. AN. X 10 <sup>-3</sup> | SOUND VELOCITY                                 | D <sub>2</sub> ml/l | PO <sub>4</sub> -P μg - σ <sub>t</sub> /l | TOTAL-P μg - σ <sub>t</sub> /l | NO <sub>3</sub> -N μg - σ <sub>t</sub> /l | NO <sub>3</sub> -N μg - σ <sub>t</sub> /l | SiO <sub>2</sub> -Si μg - σ <sub>t</sub> /l | pH  |              |             |                      |      |
| 129               |           |                  | STD                      | 0000                      | 2340          | 3529  | 2406               | 0038654                                    | 0000                               | 15313  |                     |   |                                |   |   |   |     |              |             |                      |      |
|                   |           |                  | OBS                      | 0000                      | 2340          | 35289 | 2406               |  |                                    | 15313  |                     |   |                                |   |   |   |     |              |             |                      |      |
|                   |           |                  | STD                      | 0010                      | 2246          | 3541  | 2442               | 0035240                                    | 0037                               | 15292  |                     |   |                                |   |   |   |     |              |             |                      |      |
|                   |           |                  | STD                      | 0020                      | 2150          | 3553  | 2478               | 0031847                                    | 0070                               | 15271  |                     |   |                                |   |   |   |     |              |             |                      |      |
| 129               |           |                  | OBS                      | 0028                      | 2072          | 35622 | 2506               |  |                                    | 15253  |                     |   |                                |   |   |   |     |              |             |                      |      |
|                   |           |                  | STD                      | 0030                      | 2047          | 3565  | 2515               | 0028344                                    | 0101                               | 15247  |                     |   |                                |   |   |   |     |              |             |                      |      |
|                   |           |                  | STD                      | 0050                      | 1840          | 3586  | 2585               | 0021774                                    | 0151                               | 15195  |                     |   |                                |   |   |   |     |              |             |                      |      |
| 129               |           |                  | OBS                      | 0055                      | 1801          | 35914 | 2599               |  |                                    | 15185  |                     |   |                                |   |   |   |     |              |             |                      |      |
|                   |           |                  | STD                      | 0075                      | 1769          | 3613  | 2623               | 0018221                                    | 0201                               | 15182  |                     |   |                                |   |   |   |     |              |             |                      |      |
|                   |           |                  | STD                      | 0100                      | 1723          | 3628  | 2646               | 0016148                                    | 0244                               | 15174  |                     |   |                                |   |   |   |     |              |             |                      |      |
| 129               |           |                  | OBS                      | 0110                      | 1703          | 36305 | 2653               |  |                                    | 15170  |                     |   |                                |   |   |   |     |              |             |                      |      |
|                   |           |                  | STD                      | 0125                      | 1661          | 3622  | 2656               | 0015252                                    | 0283                               | 15159  |                     |   |                                |   |   |   |     |              |             |                      |      |
|                   |           |                  | STD                      | 0150                      | 1603          | 3611  | 2661               | 0014837                                    | 0321                               | 15144  |                     |   |                                |   |   |   |     |              |             |                      |      |
| 129               |           |                  | OBS                      | 0166                      | 1573          | 36061 | 2664               |  |                                    | 15137  |                     |   |                                |   |   |   |     |              |             |                      |      |
|                   |           |                  | STD                      | 0200                      | 1538          | 3602  | 2669               | 0014225                                    | 0393                               | 15131  |                     |   |                                |   |   |   |     |              |             |                      |      |
| 129               |           |                  | OBS                      | T0221                     | 1515          | 35993 | 2672               |  |                                    | 15127  |                     |   |                                |   |   |   |     |              |             |                      |      |
|                   |           |                  | STD                      | 0250                      | 1473          | 3592  | 2676               | 0013720                                    | 0463                               | 15118  |                     |   |                                |   |   |   |     |              |             |                      |      |
|                   |           |                  | STD                      | 0300                      | 1413          | 3582  | 2681               | 0013343                                    | 0531                               | 15105  |                     |   |                                |   |   |   |     |              |             |                      |      |
| 129               |           |                  | OBS                      | 0330                      | 1385          | 35787 | 2684               |  |                                    | 15101  |                     |   |                                |   |   |   |     |              |             |                      |      |
|                   |           |                  | STD                      | 0400                      | 1359          | 3578  | 2690               | 0012773                                    | 0661                               | 15103  |                     |   |                                |   |   |   |     |              |             |                      |      |
| 129               |           |                  | OBS                      | 0439                      | 1329          | 35771 | 2695               |  |                                    | 15100  |                     |   |                                |   |   |   |     |              |             |                      |      |
|                   |           |                  | STD                      | 0500                      | 1278          | 3567  | 2697               | 0012263                                    | 0786                               | 15092  |                     |   |                                |   |   |   |     |              |             |                      |      |
| 129               |           |                  | OBS                      | T0548                     | 1216          | 35562 | 2701               |  |                                    | 15077  |                     |   |                                |   |   |   |     |              |             |                      |      |
|                   |           |                  | STD                      | 0600                      | 1113          | 3540  | 2708               | 0011334                                    | 0904                               | 15048  |                     |   |                                |   |   |   |     |              |             |                      |      |
| 129               |           |                  | OBS                      | 0657                      | 1007          | 35260 | 2716               |  |                                    | 15018  |                     |   |                                |   |   |   |     |              |             |                      |      |
|                   |           |                  | STD                      | 0700                      | 9527          | 3519  | 2724               | 0009809                                    | 1010                               | 14995  |                     |   |                                |   |   |   |     |              |             |                      |      |
|                   |           |                  | STD                      | 0800                      | 0764          | 3507  | 2740               | 0008242                                    | 1100                               | 14948  |                     |   |                                |   |   |   |     |              |             |                      |      |
| 129               |           |                  | OBS                      | 0877                      | 0662          | 35000 | 2749               |  |                                    | 14920  |                     |   |                                |   |   |   |     |              |             |                      |      |
|                   |           |                  | STD                      | 0900                      | 0637          | 3499  | 2752               | 0007091                                    | 1177                               | 14914  |                     |   |                                |   |   |   |     |              |             |                      |      |
|                   |           |                  | STD                      | 1000                      | 0545          | 3497  | 2762               | 0006082                                    | 1243                               | 14893  |                     |   |                                |   |   |   |     |              |             |                      |      |
| 129               |           |                  | OBS                      | 1056                      | 0479          | 34959 | 2769               |  |                                    | 14882  |                     |   |                                |   |   |   |     |              |             |                      |      |
|                   |           |                  | STD                      | 1100                      | 0478          | 3496  | 2769               | 0005379                                    | 1300                               | 14883  |                     |   |                                |   |   |   |     |              |             |                      |      |
|                   |           |                  | STD                      | 1200                      | 0449          | 3495  | 2772               | 0005155                                    | 1353                               | 14887  |                     |   |                                |   |   |   |     |              |             |                      |      |
|                   |           |                  | STD                      | 1300                      | 0427          | 3494  | 2773               | 0005026                                    | 1404                               | 14895  |                     |   |                                |   |   |   |     |              |             |                      |      |
| 129               |           |                  | OBS                      | T1371                     | 0414          | 34939 | 2774               |  |                                    | 14901  |                     |   |                                |   |   |   |     |              |             |                      |      |
|                   |           |                  | STD                      | 1400                      | 0410          | 3494  | 2775               | 0004927                                    | 1454                               | 14904  |                     |   |                                |   |   |   |     |              |             |                      |      |
|                   |           |                  | STD                      | 1500                      | 0398          | 3494  | 2776               | 0004860                                    | 1503                               | 14916  |                     |   |                                |   |   |   |     |              |             |                      |      |
| 129               |           |                  | OBS                      | T1654                     | 0391          | 34947 | 2777               |  |                                    | 14939  |                     |   |                                |   |   |   |     |              |             |                      |      |



TABLE I.—Continued

| REFERENCE |         | SNIP CODE | LATITUDE<br>1°/10' | LONGITUDE<br>1°/10' | MARS DEN-<br>SITY | MARS DEN-<br>SITY |     | STATION TIME |     | YEAR | ORIGINATOR'S |     | DEPTH TO<br>BOTTOM | MAX. DEPTH OF<br>WAVE OBSERVATIONS |                |       | WEA-<br>TER CODE | CLOUD CODES |      | NODC<br>STATION<br>NUMBER |
|-----------|---------|-----------|--------------------|---------------------|-------------------|-------------------|-----|--------------|-----|------|--------------|-----|--------------------|------------------------------------|----------------|-------|------------------|-------------|------|---------------------------|
| CASE NO.  | ID. NO. |           |                    |                     |                   | 10"               | 1'  | MO           | DAY |      | HR           | MIN |                    | CRUISE NO.                         | STATION NUMBER | SWELL |                  | DIR.        | HGT  |                           |
| 311158    | 1N      | 4347 N    | 04103 W            | 149 31              | 09                | 06                | 133 | 1967         | 010 | 009  | 4600         | 16  | 24                 | 3                                  |                | 16    | 6                | 6           | 0009 |                           |

| WATER         |                | WIND |                      | BARO-<br>METER<br>(mb) | AIR TEMP. °C |             | VIS.<br>CODE | NO.<br>OBS.<br>DEPTHS | SPECIAL<br>OBSERVATIONS |
|---------------|----------------|------|----------------------|------------------------|--------------|-------------|--------------|-----------------------|-------------------------|
| COLOR<br>CODE | TRANS.<br>UNIT | DIR. | SPEED<br>OR<br>FORCE |                        | DRY<br>BULB  | WET<br>BULB |              |                       |                         |
|               |                | 21   | 515                  | 169                    | 239          | 228         | 7            | 14                    |                         |

| MESSING<br>Rm<br>HR 1/10 | CAS<br>NO. | CARD<br>TYPE | DEPTH (m) | T °C | %     | SIGMA-T | SPECIFIC VOLUME<br>ANDRAUL-10 <sup>3</sup> | $\frac{\Delta D}{D \cdot \Delta T}$<br>M. x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>2</sub> =P<br>pg - a/l | TOTAL L-<br>pg - a/l | NO <sub>2</sub> =N<br>ug - a/l | NO <sub>3</sub> =N<br>ug - a/l | Si O <sub>2</sub> =Si<br>pg - a/l | pH | COND |
|--------------------------|------------|--------------|-----------|------|-------|---------|--|---|-------------------|---------------------|--------------------------------|----------------------|--------------------------------|--------------------------------|-----------------------------------|----|------|
|                          |            | STO          | 0000      | 2336 | 3544  | 2418    | 0037453                                    | 0000  | 15314             |                     |                                |                      |                                |                                |                                   |    |      |
| 133                      |            | OBS          | 0000      | 2336 | 35440 | 2418    |  |   | 15314             |                     |                                |                      |                                |                                |                                   |    |      |
|                          |            | STO          | 0010      | 2273 | 3540  | 2433    | 0036046                                    | 0037  | 15299             |                     |                                |                      |                                |                                |                                   |    |      |
|                          |            | STO          | 0020      | 2192 | 3536  | 2453    | 0034188                                    | 0072  | 15280             |                     |                                |                      |                                |                                |                                   |    |      |
| 133                      |            | OBS          | 0027      | 2125 | 35332 | 2470    |  |   | 15263             |                     |                                |                      |                                |                                |                                   |    |      |
|                          |            | STO          | 0030      | 2079 | 3541  | 2488    | 0030902                                    | 0104  | 15252             |                     |                                |                      |                                |                                |                                   |    |      |
|                          |            | STO          | 0050      | 1830 | 3584  | 2586    | 0021680                                    | 0157  | 15192             |                     |                                |                      |                                |                                |                                   |    |      |
| 133                      |            | OBS          | 0053      | 1802 | 35894 | 2597    |  |   | 15185             |                     |                                |                      |                                |                                |                                   |    |      |
|                          |            | STO          | 0075      | 1757 | 3611  | 2625    | 0018086                                    | 0207  | 15178             |                     |                                |                      |                                |                                |                                   |    |      |
|                          |            | STO          | 0100      | 1701 | 3623  | 2647    | 0016006                                    | 0249  | 15167             |                     |                                |                      |                                |                                |                                   |    |      |
| 133                      |            | OBS          | 0107      | 1685 | 36241 | 2652    |  |   | 15164             |                     |                                |                      |                                |                                |                                   |    |      |
|                          |            | STO          | 0125      | 1629 | 3614  | 2657    | 0015116                                    | 0288  | 15148             |                     |                                |                      |                                |                                |                                   |    |      |
|                          |            | STO          | 0150      | 1567 | 3604  | 2664    | 0014550                                    | 0325  | 15132             |                     |                                |                      |                                |                                |                                   |    |      |
| 133                      |            | OBS          | 0161      | 1546 | 36006 | 2666    |  |   | 15127             |                     |                                |                      |                                |                                |                                   |    |      |
|                          |            | STO          | 0200      | 1510 | 3597  | 2671    | 0013991                                    | 0397  | 15122             |                     |                                |                      |                                |                                |                                   |    |      |
| 133                      |            | OBS          | T0213     | 1496 | 35954 | 2673    |  |   | 15119             |                     |                                |                      |                                |                                |                                   |    |      |
|                          |            | STO          | 0250      | 1434 | 3584  | 2678    | 0013486                                    | 0465  | 15104             |                     |                                |                      |                                |                                |                                   |    |      |
|                          |            | STO          | 0300      | 1364 | 3571  | 2683    | 0013143                                    | 0532  | 15088             |                     |                                |                      |                                |                                |                                   |    |      |
| 133                      |            | OBS          | 0321      | 1340 | 35673 | 2685    |  |   | 15083             |                     |                                |                      |                                |                                |                                   |    |      |
|                          |            | STO          | 0400      | 1288 | 3562  | 2692    | 0012558                                    | 0660  | 15078             |                     |                                |                      |                                |                                |                                   |    |      |
| 133                      |            | OBS          | 0428      | 1260 | 35579 | 2694    |  |   | 15073             |                     |                                |                      |                                |                                |                                   |    |      |
|                          |            | STO          | 0500      | 1155 | 3541  | 2701    | 0011799                                    | 0782  | 15046             |                     |                                |                      |                                |                                |                                   |    |      |
| 133                      |            | OBS          | T0536     | 1108 | 35348 | 2705    |  |   | 15035             |                     |                                |                      |                                |                                |                                   |    |      |
|                          |            | STO          | 0600      | 1044 | 3530  | 2713    | 0010817                                    | 0895  | 15022             |                     |                                |                      |                                |                                |                                   |    |      |
| 133                      |            | OBS          | 0644      | 0991 | 35267 | 2719    |  |   | 15010             |                     |                                |                      |                                |                                |                                   |    |      |
|                          |            | STO          | 0700      | 0879 | 3517  | 2730    | 0009159                                    | 0995  | 14976             |                     |                                |                      |                                |                                |                                   |    |      |
|                          |            | STO          | 0800      | 0718 | 3505  | 2745    | 0007689                                    | 1079  | 14930             |                     |                                |                      |                                |                                |                                   |    |      |
| 133                      |            | OBS          | 0850      | 0655 | 35012 | 2751    |  |   | 14913             |                     |                                |                      |                                |                                |                                   |    |      |
|                          |            | STO          | 0900      | 0621 | 3502  | 2756    | 0006642                                    | 1151  | 14908             |                     |                                |                      |                                |                                |                                   |    |      |
|                          |            | STO          | 1000      | 0561 | 3503  | 2765    | 0005861                                    | 1214  | 14901             |                     |                                |                      |                                |                                |                                   |    |      |
| 133                      |            | OBS          | 1077      | 0523 | 35035 | 2770    |  |   | 14898             |                     |                                |                      |                                |                                |                                   |    |      |
|                          |            | STO          | 1100      | 0514 | 3503  | 2770    | 0005339                                    | 1270  | 14898             |                     |                                |                      |                                |                                |                                   |    |      |
|                          |            | STO          | 1200      | 0480 | 3501  | 2773    | 0005041                                    | 1322  | 14901             |                     |                                |                      |                                |                                |                                   |    |      |

| REFERENCE    |     | SHIP<br>CODE | LATITUDE<br>1/10 | LONGITUDE<br>1/10 | MARS<br>SQUARE | STATION TIME<br>IGMT | YEAR | ORIGINATOR'S  |                   | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>S/MPL'S | WAVE<br>OBSERVATIONS |     |    |     | WEA-<br>TNER<br>CODE | CLOUD<br>CODE | NGDC<br>STATION<br>NUMBER |      |
|--------------|-----|--------------|------------------|-------------------|----------------|----------------------|------|---------------|-------------------|-----------------------|--------------------------|----------------------|-----|----|-----|----------------------|---------------|---------------------------|------|
| CITY<br>CODE | NO. |              |                  |                   |                |                      |      | CRUISE<br>NO. | STATION<br>NUMBER |                       |                          | MO                   | DAY | HR | MIN |                      |               |                           | SEC  |
| 311158       | IN  | 4352 N       | 04059 W          | 149 30            | 09 07 130      | 1967                 | 010  | 010           | 4600              | 15                    | 18                       | 2                    |     |    |     | 14                   | 8             | 8                         | 0010 |

| WATER      |            | WIND |                | BARO-METER<br>(mba) | AIR TEMP. °C |          | VIS. CODE | NO. OBS. DEPTNS | SPECIAL OBSERVATIONS |
|------------|------------|------|----------------|---------------------|--------------|----------|-----------|-----------------|----------------------|
| COLOR CODE | TRANS. mil | DIR. | SPEED OR FORCE |                     | DRY BULB     | WET BULB |           |                 |                      |
|            |            | 18   | 508            | 163                 | 244          | 228      | 7         | 14              |                      |

| MESSAGE<br>TIME<br>HR | CAST<br>NO. | CARD<br>TYPE | DEPTH (m) | T °C | S ‰   | SIGMA-T | SPEECH VOLUME<br>ANOMALY-1157 | $\Sigma \Delta D$<br>DIN, M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>µg - µl/l | TOTAL-P<br>µg - µl/l | NO <sub>2</sub> -N<br>µg - µl/l | NO <sub>3</sub> -N<br>µg - µl/l | SiO <sub>4</sub> -Si<br>µg - ml/l | pH |
|-----------------------|-------------|--------------|-----------|------|-------|---------|-------------------------------|---|-------------------|---------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|----|
| 130                   |             | STS          | 0000      | 2370 | 3535  | 2401    | 0039080                       | 0000  | 15321             |                     |                                 |                      |                                 |                                 |                                   |    |
|                       |             | STS          | 0000      | 2370 | 35346 | 2401    |                               |   | 15321             |                     |                                 |                      |                                 |                                 |                                   |    |
|                       |             | STS          | 0010      | 2375 | 3553  | 2414    | 0037944                       | 0039  | 15326             |                     |                                 |                      |                                 |                                 |                                   |    |
| 130                   |             | STS          | 0020      | 2381 | 3572  | 2426    | 0036765                       | 0076  | 15331             |                     |                                 |                      |                                 |                                 |                                   |    |
|                       |             | STS          | 0024      | 2383 | 35809 | 2432    |                               |   | 15333             |                     |                                 |                      |                                 |                                 |                                   |    |
|                       |             | STS          | 0030      | 2265 | 3599  | 2475    | 0032195                       | 0110  | 15312             |                     |                                 |                      |                                 |                                 |                                   |    |
| 130                   |             | STS          | 0049      | 2033 | 36403 | 2576    |                               |   | 15255             |                     |                                 |                      |                                 |                                 |                                   |    |
|                       |             | STS          | 0050      | 2027 | 3640  | 2578    | 0022482                       | 0165  | 15253             |                     |                                 |                      |                                 |                                 |                                   |    |
|                       |             | STS          | 0075      | 1885 | 3634  | 2610    | 0019468                       | 0217  | 15217             |                     |                                 |                      |                                 |                                 |                                   |    |
| 130                   |             | STS          | 0098      | 1786 | 36293 | 2631    |                               |   | 15192             |                     |                                 |                      |                                 |                                 |                                   |    |
|                       |             | STS          | 0100      | 1780 | 3629  | 2633    | 0017403                       | 0264  | 15191             |                     |                                 |                      |                                 |                                 |                                   |    |
|                       |             | STS          | 0125      | 1718 | 3623  | 2643    | 0016480                       | 0306  | 15176             |                     |                                 |                      |                                 |                                 |                                   |    |
| 130                   |             | STS          | 0146      | 1676 | 36195 | 2651    |                               |   | 15167             |                     |                                 |                      |                                 |                                 |                                   |    |
|                       |             | STS          | 0150      | 1671 | 3619  | 2651    | 0015779                       | 0346  | 15166             |                     |                                 |                      |                                 |                                 |                                   |    |
|                       |             | STS          | T0195     | 1616 | 36161 | 2662    |                               |   | 15156             |                     |                                 |                      |                                 |                                 |                                   |    |
| 130                   |             | STS          | 0200      | 1612 | 3616  | 2663    | 0014834                       | 0423  | 15156             |                     |                                 |                      |                                 |                                 |                                   |    |
|                       |             | STS          | 0250      | 1564 | 3609  | 2669    | 0014441                       | 0496  | 15148             |                     |                                 |                      |                                 |                                 |                                   |    |
|                       |             | STS          | 0292      | 1515 | 36007 | 2673    |                               |   | 15139             |                     |                                 |                      |                                 |                                 |                                   |    |
| 130                   |             | STS          | 0300      | 1499 | 3598  | 2675    | 0013987                       | 0567  | 15135             |                     |                                 |                      |                                 |                                 |                                   |    |
|                       |             | STS          | 0388      | 1371 | 35761 | 2685    |                               |   | 15105             |                     |                                 |                      |                                 |                                 |                                   |    |
|                       |             | STS          | 0400      | 1366 | 3578  | 2688    | 0012957                       | 0702  | 15106             |                     |                                 |                      |                                 |                                 |                                   |    |
| 130                   |             | STS          | T0484     | 1332 | 35795 | 2696    |                               |   | 15109             |                     |                                 |                      |                                 |                                 |                                   |    |
|                       |             | STS          | 0500      | 1290 | 3573  | 2700    | 0012064                       | 0827  | 15096             |                     |                                 |                      |                                 |                                 |                                   |    |
|                       |             | STS          | 0581      | 1105 | 35470 | 2715    |                               |   | 15043             |                     |                                 |                      |                                 |                                 |                                   |    |
| 130                   |             | STS          | 0600      | 1079 | 3544  | 2717    | 0010422                       | 0939  | 15036             |                     |                                 |                      |                                 |                                 |                                   |    |
|                       |             | STS          | 0700      | 0939 | 3528  | 2729    | 0009354                       | 1038  | 15000             |                     |                                 |                      |                                 |                                 |                                   |    |
|                       |             | STS          | T0764     | 0850 | 35191 | 2737    |                               |   | 14976             |                     |                                 |                      |                                 |                                 |                                   |    |
| 130                   |             | STS          | 0800      | 0769 | 3515  | 2743    | 0008045                       | 1125  | 14959             |                     |                                 |                      |                                 |                                 |                                   |    |
|                       |             | STS          | 0900      | 0646 | 3506  | 2756    | 0006707                       | 1199  | 14918             |                     |                                 |                      |                                 |                                 |                                   |    |
|                       |             | STS          | 0954      | 0585 | 35018 | 2761    |                               |   | 14903             |                     |                                 |                      |                                 |                                 |                                   |    |
| 130                   |             | STS          | 1000      | 0552 | 3500  | 2763    | 0005957                       | 1262  | 14897             |                     |                                 |                      |                                 |                                 |                                   |    |
|                       |             | STS          | 1100      | 0493 | 3497  | 2768    | 0005497                       | 1319  | 14889             |                     |                                 |                      |                                 |                                 |                                   |    |
|                       |             | STS          | T1198     | 0452 | 34956 | 2772    |                               |   | 14888             |                     |                                 |                      |                                 |                                 |                                   |    |
| 130                   |             | STS          | 1200      | 0452 | 3496  | 2772    | 0005163                       | 1373  | 14888             |                     |                                 |                      |                                 |                                 |                                   |    |
|                       |             | STS          | 1300      | 0441 | 3496  | 2773    | 0005084                       | 1424  | 14901             |                     |                                 |                      |                                 |                                 |                                   |    |
|                       |             | STS          | 1400      | 0430 | 3497  | 2775    | 0005002                       | 1474  | 14913             |                     |                                 |                      |                                 |                                 |                                   |    |
| 130                   |             | STS          | T1426     | 0424 | 34969 | 2776    |                               |   | 14920             |                     |                                 |                      |                                 |                                 |                                   |    |



TABLE I.—Continued

| REFERENCE                   |            | SHIP CODE   | LATITUDE<br>° ' 10 | LONGITUDE<br>° ' 10 | MARS DEN<br>SQUARE | STATION TIME<br>(GMT) |         |                                | YEAR                                  | ORIGINATOR'S      |                     | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLE | WAVE<br>OBSERVATIONS            |                                 |                                   | CLOUD<br>CODES | TO<br>STATION<br>NUMBER | NOCC<br>STATION<br>NUMBER |
|-----------------------------|------------|-------------|--------------------|---------------------|--------------------|-----------------------|---------|--------------------------------|---------------------------------------|-------------------|---------------------|---------------------------------|-------------------------------|---------------------------------|---------------------------------|-----------------------------------|----------------|-------------------------|---------------------------|
| CTM<br>CODE                 | ID.<br>NO. |             |                    |                     |                    | 10'                   | 1'      | MO DAY HR 1/10                 |                                       | CRUISE<br>NO.     | STATION<br>NUMBER   |                                 |                               | OIL                             | HGT                             | PER                               |                |                         |                           |
| 3T1158                      | IN         |             | 4403 N             | 04058 W             | 149 40             | 07                    | 08      | 130                            | 1967                                  | D10               | 011                 | 4600                            | 14                            | 20                              | 3                               |                                   | 60             | 4 8                     | 0011                      |
|                             |            | CAST<br>NO. | CARD<br>TYPE       | DEPTH (m)           | T °C               | S %                   | SIGMA-T | SPECIFIC VOLUME<br>ANOMALY-30° | Σ Δ C<br>DTN, M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l          | NO <sub>2</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH             | CTD-<br>NO.             |                           |
| MESSINER<br>TIME<br>HR 1/10 |            |             |                    |                     |                    |                       |         |                                |                                       |                   |                     |                                 |                               |                                 |                                 |                                   |                |                         |                           |
|                             |            |             | STD                | 0000                | 2356               | 3573                  | 2434    | 0035955                        | 0000                                  | 15322             |                     |                                 |                               |                                 |                                 |                                   |                |                         |                           |
|                             |            |             | D85                | 0000                | 2356               | 35725                 | 2434    |                                |                                       | 15322             |                     |                                 |                               |                                 |                                 |                                   |                |                         |                           |
|                             |            |             | STD                | 0010                | 2339               | 3578                  | 2443    | 0035110                        | 0036                                  | 15320             |                     |                                 |                               |                                 |                                 |                                   |                |                         |                           |
|                             |            |             | STD                | 0020                | 2321               | 3587                  | 2455    | 0034014                        | 0070                                  | 15318             |                     |                                 |                               |                                 |                                 |                                   |                |                         |                           |
|                             |            |             | D85                | 0024                | 2314               | 35924                 | 2461    |                                |                                       | 15318             |                     |                                 |                               |                                 |                                 |                                   |                |                         |                           |
|                             |            |             | STD                | 0030                | 2213               | 3608                  | 2502    | 0029589                        | 0102                                  | 15295             |                     |                                 |                               |                                 |                                 |                                   |                |                         |                           |
|                             |            |             | D85                | 0049                | 1950               | 36396                 | 2598    |                                |                                       | 15232             |                     |                                 |                               |                                 |                                 |                                   |                |                         |                           |
|                             |            |             | STD                | 0050                | 1942               | 3639                  | 2599    | 0020417                        | 0152                                  | 15230             |                     |                                 |                               |                                 |                                 |                                   |                |                         |                           |
|                             |            |             | STD                | 0075                | 1777               | 3621                  | 2627    | 0017828                        | 0200                                  | 15185             |                     |                                 |                               |                                 |                                 |                                   |                |                         |                           |
|                             |            |             | D85                | 0097                | 1682               | 36136                 | 2645    |                                |                                       | 15160             |                     |                                 |                               |                                 |                                 |                                   |                |                         |                           |
|                             |            |             | STD                | 0100                | 1681               | 3615                  | 2646    | 0016131                        | 0242                                  | 15160             |                     |                                 |                               |                                 |                                 |                                   |                |                         |                           |
|                             |            |             | STD                | 0125                | 1663               | 3620                  | 2654    | 0015443                        | 0282                                  | 15159             |                     |                                 |                               |                                 |                                 |                                   |                |                         |                           |
|                             |            |             | D85                | 0145                | 1641               | 36201                 | 2659    |                                |                                       | 15156             |                     |                                 |                               |                                 |                                 |                                   |                |                         |                           |
|                             |            |             | STD                | 0150                | 1632               | 3619                  | 2661    | 0014900                        | 0320                                  | 15154             |                     |                                 |                               |                                 |                                 |                                   |                |                         |                           |
|                             |            |             | D85                | 0192                | 1562               | 36076                 | 2668    |                                |                                       | 15138             |                     |                                 |                               |                                 |                                 |                                   |                |                         |                           |
|                             |            |             | STD                | 0200                | 1547               | 3604                  | 2669    | 0014278                        | 0392                                  | 15134             |                     |                                 |                               |                                 |                                 |                                   |                |                         |                           |
|                             |            |             | STD                | 0250                | 1466               | 3588                  | 2674    | 0013864                        | 0463                                  | 15115             |                     |                                 |                               |                                 |                                 |                                   |                |                         |                           |
|                             |            |             | D85                | 0286                | 1415               | 35800                 | 2679    |                                |                                       | 15104             |                     |                                 |                               |                                 |                                 |                                   |                |                         |                           |
|                             |            |             | STD                | 0300                | 1402               | 3579                  | 2681    | 0013335                        | 0531                                  | 15101             |                     |                                 |                               |                                 |                                 |                                   |                |                         |                           |
|                             |            |             | D85                | 0383                | 1334               | 35735                 | 2691    |                                |                                       | 15092             |                     |                                 |                               |                                 |                                 |                                   |                |                         |                           |
|                             |            |             | STD                | 0400                | 1330               | 3574                  | 2692    | 0012517                        | 0660                                  | 15093             |                     |                                 |                               |                                 |                                 |                                   |                |                         |                           |
|                             |            |             | D85                | 0479                | 1309               | 35757                 | 2698    |                                |                                       | 15100             |                     |                                 |                               |                                 |                                 |                                   |                |                         |                           |
|                             |            |             | STD                | 0500                | 1262               | 3567                  | 2701    | 0011948                        | 0782                                  | 15086             |                     |                                 |                               |                                 |                                 |                                   |                |                         |                           |
|                             |            |             | D85                | 0574                | 1106               | 35616                 | 2711    |                                |                                       | 15041             |                     |                                 |                               |                                 |                                 |                                   |                |                         |                           |
|                             |            |             | STD                | 0600                | 1058               | 3535                  | 2714    | 0010701                        | 0896                                  | 15028             |                     |                                 |                               |                                 |                                 |                                   |                |                         |                           |
|                             |            |             | STD                | 0700                | 0885               | 3516                  | 2729    | 0009331                        | 0996                                  | 14979             |                     |                                 |                               |                                 |                                 |                                   |                |                         |                           |
|                             |            |             | D85                | T0772               | 0774               | 35060                 | 2738    |                                |                                       | 14947             |                     |                                 |                               |                                 |                                 |                                   |                |                         |                           |
|                             |            |             | STD                | 0800                | 0728               | 3504                  | 2743    | 0007913                        | 1082                                  | 14934             |                     |                                 |                               |                                 |                                 |                                   |                |                         |                           |
|                             |            |             | STD                | 0900                | 0592               | 3498                  | 2757    | 0006528                        | 1154                                  | 14896             |                     |                                 |                               |                                 |                                 |                                   |                |                         |                           |
|                             |            |             | D85                | 0958                | 0535               | 34956                 | 2762    |                                |                                       | 14882             |                     |                                 |                               |                                 |                                 |                                   |                |                         |                           |
|                             |            |             | STD                | 1000                | 0521               | 3497                  | 2765    | 0005757                        | 1216                                  | 14884             |                     |                                 |                               |                                 |                                 |                                   |                |                         |                           |
|                             |            |             | STD                | 1100                | 0490               | 3498                  | 2769    | 0005384                        | 1271                                  | 14888             |                     |                                 |                               |                                 |                                 |                                   |                |                         |                           |
|                             |            |             | D85                | T1189               | 0465               | 34986                 | 2773    |                                |                                       | 14852             |                     |                                 |                               |                                 |                                 |                                   |                |                         |                           |
|                             |            |             | STD                | 1200                | 0462               | 3499                  | 2773    | 0005084                        | 1324                                  | 14893             |                     |                                 |                               |                                 |                                 |                                   |                |                         |                           |
|                             |            |             | STD                | 1300                | 0437               | 3497                  | 2774    | 0004959                        | 1374                                  | 14899             |                     |                                 |                               |                                 |                                 |                                   |                |                         |                           |
|                             |            |             | STD                | 1400                | 0414               | 3496                  | 2776    | 0004855                        | 1423                                  | 14906             |                     |                                 |                               |                                 |                                 |                                   |                |                         |                           |
|                             |            |             | D85                | T1446               | 0405               | 34951                 | 2776    |                                |                                       | 14910             |                     |                                 |                               |                                 |                                 |                                   |                |                         |                           |

| REFERENCE                   |            | SHIP CODE   | LATITUDE<br>° ' 10 | LONGITUDE<br>° ' 10 | MARS DEN<br>SQUARE | STATION TIME<br>(GMT) |         |                                | YEAR                                  | ORIGINATOR'S      |                     | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLE | WAVE<br>OBSERVATIONS            |                                 |                                   | CLOUD<br>CODES | NOCC<br>STATION<br>NUMBER |
|-----------------------------|------------|-------------|--------------------|---------------------|--------------------|-----------------------|---------|--------------------------------|---------------------------------------|-------------------|---------------------|---------------------------------|-------------------------------|---------------------------------|---------------------------------|-----------------------------------|----------------|---------------------------|
| CTM<br>CODE                 | ID.<br>NO. |             |                    |                     |                    | 10'                   | 1'      | MO DAY HR 1/10                 |                                       | CRUISE<br>NO.     | STATION<br>NUMBER   |                                 |                               | OIL                             | HGT                             | PER                               | SEA            |                           |
| 3T1158                      | IN         |             | 4402 N             | 04049 W             | 149 40             | 09                    | 10      | 125                            | 1967                                  | D10               | 012                 | 4650                            | 13                            | 29                              | 3                               |                                   | 8 3            | 0012                      |
|                             |            | CAST<br>NO. | CARD<br>TYPE       | DEPTH (m)           | T °C               | S %                   | SIGMA-T | SPECIFIC VOLUME<br>ANOMALY-30° | Σ Δ C<br>DTN, M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l          | NO <sub>2</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH             | CTD-<br>NO.               |
| MESSINER<br>TIME<br>HR 1/10 |            |             |                    |                     |                    |                       |         |                                |                                       |                   |                     |                                 |                               |                                 |                                 |                                   |                |                           |
|                             |            |             | STD                | 0000                | 2263               | 3571                  | 2459    | 0033526                        | 0000                                  | 15299             |                     |                                 |                               |                                 |                                 |                                   |                |                           |
|                             |            |             | D85                | 0000                | 2263               | 35706                 | 2459    |                                |                                       | 15299             |                     |                                 |                               |                                 |                                 |                                   |                |                           |
|                             |            |             | STD                | 0010                | 2256               | 3573                  | 2463    | 0033226                        | 0033                                  | 15299             |                     |                                 |                               |                                 |                                 |                                   |                |                           |
|                             |            |             | STD                | 0020                | 2249               | 3575                  | 2467    | 0032922                        | 0066                                  | 15299             |                     |                                 |                               |                                 |                                 |                                   |                |                           |
|                             |            |             | D85                | 0023                | 2247               | 35754                 | 2468    |                                |                                       | 15299             |                     |                                 |                               |                                 |                                 |                                   |                |                           |
|                             |            |             | STD                | 0030                | 2132               | 3599                  | 2518    | 0028087                        | 0097                                  | 15273             |                     |                                 |                               |                                 |                                 |                                   |                |                           |
|                             |            |             | D85                | 0046                | 1926               | 36371                 | 2602    |                                |                                       | 15225             |                     |                                 |                               |                                 |                                 |                                   |                |                           |
|                             |            |             | STD                | 0050                | 1907               | 3637                  | 2607    | 0019685                        | 0145                                  | 15220             |                     |                                 |                               |                                 |                                 |                                   |                |                           |
|                             |            |             | STD                | 0075                | 1810               | 3638                  | 2632    | 0017381                        | 0191                                  | 15197             |                     |                                 |                               |                                 |                                 |                                   |                |                           |
|                             |            |             | D85                | 0091                | 1766               | 36384                 | 2643    |                                |                                       | 15187             |                     |                                 |                               |                                 |                                 |                                   |                |                           |
|                             |            |             | STD                | 0100                | 1759               | 3638                  | 2645    | 0016243                        | 0233                                  | 15186             |                     |                                 |                               |                                 |                                 |                                   |                |                           |
|                             |            |             | STD                | 0125                | 1731               | 3638                  | 2651    | 0015713                        | 0273                                  | 15182             |                     |                                 |                               |                                 |                                 |                                   |                |                           |
|                             |            |             | D85                | 0136                | 1715               | 36375                 | 2655    |                                |                                       | 15179             |                     |                                 |                               |                                 |                                 |                                   |                |                           |
|                             |            |             | STD                | 0150                | 1684               | 3631                  | 2657    | 0015203                        | 0312                                  | 15171             |                     |                                 |                               |                                 |                                 |                                   |                |                           |
|                             |            |             | D85                | T0181               | 1622               | 36186                 | 2663    |                                |                                       | 15156             |                     |                                 |                               |                                 |                                 |                                   |                |                           |
|                             |            |             | STD                | 0200                | 1599               | 3616                  | 2666    | 0014545                        | 0386                                  | 15152             |                     |                                 |                               |                                 |                                 |                                   |                |                           |
|                             |            |             | STD                | 0250                | 1527               | 3604                  | 2673    | 0014000                        | 0457                                  | 15136             |                     |                                 |                               |                                 |                                 |                                   |                |                           |
|                             |            |             | D85                | 0269                | 1495               | 35983                 | 2676    |                                |                                       | 15128             |                     |                                 |                               |                                 |                                 |                                   |                |                           |
|                             |            |             | STD                | 0300                | 1412               | 3561                  | 2680    | 0013395                        | 0526                                  | 15105             |                     |                                 |                               |                                 |                                 |                                   |                |                           |
|                             |            |             | D85                | 0356                | 1318               | 35631                 | 2686    |                                |                                       | 15081             |                     |                                 |                               |                                 |                                 |                                   |                |                           |
|                             |            |             | STD                | 0400                | 1315               | 3571                  | 2693    | 0012445                        | 0655                                  | 15088             |                     |                                 |                               |                                 |                                 |                                   |                |                           |
|                             |            |             | D85                | T0441               | 1313               | 35726                 | 2695    |                                |                                       | 15074             |                     |                                 |                               |                                 |                                 |                                   |                |                           |
|                             |            |             | STD                | 0500                | 1263               | 3566                  | 2700    | 0012040                        | 0778                                  | 15087             |                     |                                 |                               |                                 |                                 |                                   |                |                           |
|                             |            |             | D85                | 0519                | 1238               | 35628                 | 2702    |                                |                                       | 15081             |                     |                                 |                               |                                 |                                 |                                   |                |                           |
|                             |            |             | STD                | 0600                | 1039               | 3532                  | 2715    | 0010582                        | 0891                                  | 15021             |                     |                                 |                               |                                 |                                 |                                   |                |                           |
|                             |            |             | D85                | T0674               | 0883               | 35126                 | 2726    |                                |                                       | 14973             |                     |                                 |                               |                                 |                                 |                                   |                |                           |
|                             |            |             | STD                | 0700                | 0834               | 3510                  | 2732    | 0008945                        | 0988                                  | 14959             |                     |                                 |                               |                                 |                                 |                                   |                |                           |
|                             |            |             | STD                | 0800                | 0676               | 3503                  | 2750    | 0007215                        | 1069                                  | 14913             |                     |                                 |                               |                                 |                                 |                                   |                |                           |
|                             |            |             | D85                | 0840                | 0625               | 35004                 | 2754    |                                |                                       | 14899             |                     |                                 |                               |                                 |                                 |                                   |                |                           |
|                             |            |             | STD                | 0900                | 0573               | 3499                  | 2760    | 0006191                        | 1136                                  | 14888             |                     |                                 |                               |                                 |                                 |                                   |                |                           |
|                             |            |             | STD                | 1000                | 0504               | 3497                  | 2767    | 0005530                        | 1195                                  | 14877             |                     |                                 |                               |                                 |                                 |                                   |                |                           |
|                             |            |             | D85                | T1050               | 0477               | 34959                 | 2769    |                                |                                       | 14874             |                     |                                 |                               |                                 |                                 |                                   |                |                           |
|                             |            |             | STD                | 1100                | 0456               | 3496                  | 2772    | 0005085                        | 1248                                  | 14873             |                     |                                 |                               |                                 |                                 |                                   |                |                           |
|                             |            |             | STD                | 1200                | 0430               | 3496                  | 2774    | 0004850                        | 1297                                  | 14879             |                     |                                 |                               |                                 |                                 |                                   |                |                           |
|                             |            |             | D85                | T1282               | 0425               | 34963                 | 2775    |                                |                                       | 14891             |                     |                                 |                               |                                 |                                 |                                   |                |                           |



TABLE I.—Continued

| REFERENCE                  |             | SHIP<br>CODE  | LATITUDE<br>° | LONGITUDE<br>° | MARS<br>DEN<br>SQUARE | STATION TIME<br>(GMT) |   |                                       | YEAR              | ORIGINATOR'S        |                                 | DEPTH<br>TO<br>BOTTOM   | MAX.<br>DEPTH<br>OF<br>SAMPLING | WAVE<br>OBSERVATIONS            |                                   |     | WEA-<br>THER<br>CODE | CLOUD<br>CODES |     | NODC<br>STATION<br>NUMBER |    |     |  |  |  |  |  |  |  |
|----------------------------|-------------|---------------|---------------|----------------|-----------------------|-----------------------|---|---------------------------------------|-------------------|---------------------|---------------------------------|-------------------------|---------------------------------|---------------------------------|-----------------------------------|-----|----------------------|----------------|-----|---------------------------|----|-----|--|--|--|--|--|--|--|
| CITY<br>CODE               | ID.<br>NO.  |               |               |                |                       | 10"<br>1"             | MO  | DAY                                   |                   | HR.1/10             | CRUISE<br>NO.                   |                         |                                 | STATION<br>NUMBER               | DIR.                              | HGT |                      | PER            | SEA |                           | TH | AMT |  |  |  |  |  |  |  |
| 3T1158                     |             | IN            | 4359 N        | 04014 W        | 149                   | 30                    | 09  | 11 128                                | 1967              | 010                 | 013                             | 4600                    | 33                              | 28                              | 0                                 |     |                      | 8              | 1   | 0013                      |    |     |  |  |  |  |  |  |  |
|                            |             |               |               |                |                       |                       |   |                                       |                   |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
|                            |             | WATER         |               | WIND           |                       | BARO-<br>METER        |   | AIR TEMP. °C                          |                   | NO. OBS.<br>DEPTH   |                                 | SPECIAL<br>OBSERVATIONS |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
|                            |             | COLOR<br>CODE | TRANS-<br>MIT | DIR.           | SPEED<br>OF<br>FORCE  | NO.                   | DIR.                                      | WET<br>BULB                           | VIL<br>CODE       |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
|                            |             | 00            | 500           | 359            | 222                   | 194                   | 8   | 18                                    |                   |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
| MESSAGE<br>TIME<br>HR 1/10 | CAST<br>NO. | CARD<br>TYPE  | DEPTH (m)     | T °C           | S ‰                   | SIGMA-T               | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> | Σ Δ D<br>CM. AL.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l    | NO <sub>2</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | PH  | DATE                 |                |     |                           |    |     |  |  |  |  |  |  |  |
| 128                        | STD         |               | 0000          | 2234           | 3566                  | 2464                  | 0033051                                   | 0000                                  | 15291             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
|                            | OBS         |               | 0000          | 2234           | 35663                 | 2464                  |   |                                       | 15291             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
|                            | STO         |               | 0010          | 2231           | 3566                  | 2465                  | 0032993                                   | 0033                                  | 15291             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
| 128                        | STD         |               | 0020          | 2227           | 3567                  | 2467                  | 0032932                                   | 0066                                  | 15292             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
|                            | OBS         |               | 0024          | 2226           | 35665                 | 2467                  |   |                                       | 15293             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
|                            | STO         |               | 0030          | 2088           | 3573                  | 2510                  | 0028820                                   | 0097                                  | 15258             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
| 128                        | OBS         |               | 0049          | 1766           | 35926                 | 2608                  |   |                                       | 15174             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
|                            | STO         |               | 0050          | 1765           | 3594                  | 2610                  | 0019422                                   | 0145                                  | 15174             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
|                            | STO         |               | 0075          | 1746           | 3623                  | 2636                  | 0016959                                   | 0191                                  | 15176             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
| 128                        | OBS         |               | 0098          | 1728           | 36378                 | 2652                  |   |                                       | 15176             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
|                            | STO         |               | 0100          | 1727           | 3638                  | 2652                  | 0015543                                   | 0231                                  | 15176             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
|                            | STO         |               | 0125          | 1712           | 3635                  | 2654                  | 0015485                                   | 0270                                  | 15176             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
| 128                        | OBS         |               | 0145          | 1690           | 36326                 | 2657                  |   |                                       | 15172             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
|                            | STO         |               | 0150          | 1681           | 3631                  | 2658                  | 0015135                                   | 0308                                  | 15170             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
|                            | OBS         |               | T0194         | 1603           | 36171                 | 2666                  |   |                                       | 15152             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
| 128                        | STO         |               | 0200          | 1591           | 3615                  | 2667                  | 0014441                                   | 0382                                  | 15149             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
|                            | STO         |               | 0250          | 1500           | 3598                  | 2674                  | 0013857                                   | 0453                                  | 15127             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
|                            | OBS         |               | 0287          | 1438           | 35865                 | 2679                  |   |                                       | 15112             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
| 128                        | STO         |               | 0300          | 1411           | 3582                  | 2681                  | 0013301                                   | 0521                                  | 15105             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
|                            | OBS         |               | 0378          | 1304           | 35660                 | 2691                  |   |                                       | 15080             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
|                            | STO         |               | 0400          | 1303           | 3571                  | 2695                  | 0012204                                   | 0648                                  | 15084             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
| 128                        | OBS         |               | T0467         | 1301           | 35736                 | 2698                  |   |                                       | 15095             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
|                            | STO         |               | 0500          | 1256           | 3566                  | 2701                  | 0011903                                   | 0769                                  | 15084             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
|                            | OBS         |               | 0560          | 1165           | 35514                 | 2707                  |   |                                       | 15061             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
| 128                        | STO         |               | 0600          | 1078           | 3540                  | 2715                  | 0010695                                   | 0882                                  | 15036             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
|                            | STO         |               | 0700          | 0887           | 3519                  | 2731                  | 0009144                                   | 0981                                  | 14980             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
|                            | OBS         |               | T0746         | 0812           | 35119                 | 2737                  |   |                                       | 14958             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
| 128                        | STO         |               | 0800          | 0737           | 3509                  | 2746                  | 0007682                                   | 1065                                  | 14938             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
|                            | STO         |               | 0900          | 0621           | 3505                  | 2759                  | 0006422                                   | 1136                                  | 14908             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
|                            | OBS         |               | 0936          | 0587           | 35042                 | 2762                  |   |                                       | 14901             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
| 128                        | STO         |               | 1000          | 0545           | 3503                  | 2767                  | 0005641                                   | 1196                                  | 14894             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
|                            | STO         |               | 1100          | 0491           | 3500                  | 2771                  | 0005250                                   | 1251                                  | 14888             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
|                            | OBS         |               | T1164         | 0464           | 34993                 | 2773                  |   |                                       | 14888             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
| 128                        | STO         |               | 1200          | 0456           | 3499                  | 2774                  | 0004976                                   | 1302                                  | 14891             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
|                            | STO         |               | 1300          | 0434           | 3498                  | 2775                  | 0004883                                   | 1351                                  | 14898             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
|                            | STO         |               | 1400          | 0416           | 3496                  | 2776                  | 0004830                                   | 1399                                  | 14907             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
| 128                        | OBS         |               | T1424         | 0412           | 34961                 | 2776                  |   |                                       | 14910             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
|                            | STO         |               | 1500          | 0403           | 3495                  | 2776                  | 0004853                                   | 1448                                  | 14918             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
|                            | STO         |               | 1750          | 0377           | 3494                  | 2778                  | 0004796                                   | 1569                                  | 14950             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
| 144                        | OBS         |               | T1867         | 0367           | 34934                 | 2779                  |   |                                       | 14965             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
|                            | STO         |               | 2000          | 0361           | 3494                  | 2780                  | 0004780                                   | 1688                                  | 14985             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
|                            | OBS         |               | T2336         | 0344           | 34948                 | 2782                  |   |                                       | 15036             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
| 144                        | STO         |               | 2500          | 0333           | 3495                  | 2784                  | 0004682                                   | 1925                                  | 15059             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
|                            | OBS         |               | 2820          | 0313           | 34954                 | 2786                  |   |                                       | 15106             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
|                            | STO         |               | 3000          | 0303           | 3495                  | 2786                  | 0004566                                   | 2156                                  | 15133             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |
| 144                        | OBS         |               | T3312         | 0286           | 34939                 | 2787                  |   |                                       | 15179             |                     |                                 |                         |                                 |                                 |                                   |     |                      |                |     |                           |    |     |  |  |  |  |  |  |  |



TABLE I.—Continued

| REFERENCE<br>CTD CODE   | SHIP<br>ID, NO. | SHIP<br>CODE        | LATITUDE<br>° 1/10   | LONGITUDE<br>° 1/10       | WARS<br>DEN  | WARS<br>DEN |   | STATION TIME<br>(GMT)                 |                         | YEAR                | ORIGINATOR'S                    |                      | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLING | WAVE<br>OBSERVATIONS              |                   |      |     | WEA-<br>THER<br>CODE | CLOUD<br>CODES |     | NODC<br>STATION<br>NUMBER |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
|---|-----------------|---------------------|----------------------|---------------------------|--------------|-------------|---|---------------------------------------|-------------------------|---------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|-------------------|------|-----|----------------------|----------------|-----|---------------------------|-------|-----|------|--|---------------------------|--------------|--|-------------|--------------------|-------------------------|---------------|-----------------|---------------------|----------------------|-------------|-------------|--|--|--|--|----|-----|-----|-----|-----|---|----|
|   |                 |                     |                      |                           |              | 10"         | 1"  | MO                                    | DAY                     |                     | HR                              | MIN                  |                                 |                                 | CRUISE<br>NO.                     | STATION<br>NUMBER | DIR. | HGT |                      | PER            | SEA |                           | 1/8   | 4/8 |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
| 311158  | IN              |                     | 4407 N               | 04057 W                   | 149          | 40          | 09  | 12                                    | 147                     | 1967                | 010                             | 014                  | 4755                            | 11                              | 19                                | 2                 |      |     |                      | 8              | 4   | 0014                      |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
| <table><tr><th colspan="2">WATER</th><th colspan="2">WIND</th><th rowspan="2">BARO-<br/>METER<br/>(mbars)</th><th colspan="2">AIR TEMP. °C</th><th rowspan="2">VIL<br/>CODE</th><th rowspan="2">NO. OBS.<br/>DEPTHS</th><th rowspan="2">SPECIAL<br/>OBSERVATIONS</th></tr><tr><th>COLOR<br/>CODE</th><th>TRANS.<br/>METER</th><th>DIR.<br/>OF<br/>FORCE</th><th>SPEED<br/>OR<br/>FORCE</th><th>DRY<br/>BULB</th><th>WET<br/>BULB</th></tr><tr><td></td><td></td><td></td><td></td><td>20</td><td>520</td><td>237</td><td>239</td><td>206</td><td>8</td><td>14</td></tr></table> |                 |                     |                      |                           |              |             |   |                                       |                         |                     |                                 |                      |                                 |                                 |                                   |                   |      |     |                      |                |     |                           | WATER |     | WIND |  | BARO-<br>METER<br>(mbars) | AIR TEMP. °C |  | VIL<br>CODE | NO. OBS.<br>DEPTHS | SPECIAL<br>OBSERVATIONS | COLOR<br>CODE | TRANS.<br>METER | DIR.<br>OF<br>FORCE | SPEED<br>OR<br>FORCE | DRY<br>BULB | WET<br>BULB |  |  |  |  | 20 | 520 | 237 | 239 | 206 | 8 | 14 |
| WATER   |                 | WIND                |                      | BARO-<br>METER<br>(mbars) | AIR TEMP. °C |             | VIL<br>CODE                               | NO. OBS.<br>DEPTHS                    | SPECIAL<br>OBSERVATIONS |                     |                                 |                      |                                 |                                 |                                   |                   |      |     |                      |                |     |                           |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
| COLOR<br>CODE   | TRANS.<br>METER | DIR.<br>OF<br>FORCE | SPEED<br>OR<br>FORCE |                           | DRY<br>BULB  | WET<br>BULB |   |                                       |                         |                     |                                 |                      |                                 |                                 |                                   |                   |      |     |                      |                |     |                           |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
|   |                 |                     |                      | 20                        | 520          | 237         | 239                                       | 206                                   | 8                       | 14                  |                                 |                      |                                 |                                 |                                   |                   |      |     |                      |                |     |                           |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
| MESSAGE<br>TIME<br>HR 1/10  | CASID<br>NO.    | CARD<br>TYPE        | DEPTH (m)            | T °C                      | S ‰          | SIGMA-T     | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> | Σ Δ D<br>DYN. M.<br>x 10 <sup>2</sup> | SOUND<br>VELOCITY       | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - μl/l | TOTAL-P<br>μg - μl/l | NO <sub>3</sub> -N<br>μg - μl/l | NO <sub>3</sub> -N<br>μg - μl/l | SiO <sub>4</sub> -Si<br>μg - μl/l | pH                | CTD  |     |                      |                |     |                           |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
|   |                 | STD                 | 0000                 | 2216                      | 3540         | 2449        | 0034488                                   | 0000                                  | 15283                   |                     |                                 |                      |                                 |                                 |                                   |                   |      |     |                      |                |     |                           |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
| 147   |                 | OBS                 | 0000                 | 2216                      | 35397        | 2449        |   |                                       | 15283                   |                     |                                 |                      |                                 |                                 |                                   |                   |      |     |                      |                |     |                           |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
|   |                 | STD                 | 0010                 | 2205                      | 3542         | 2455        | 0034036                                   | 0034                                  | 15282                   |                     |                                 |                      |                                 |                                 |                                   |                   |      |     |                      |                |     |                           |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
|   |                 | STD                 | 0020                 | 2194                      | 3545         | 2460        | 0033592                                   | 0068                                  | 15281                   |                     |                                 |                      |                                 |                                 |                                   |                   |      |     |                      |                |     |                           |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
| 147   |                 | OBS                 | 0020                 | 2194                      | 35450        | 2460        |   |                                       | 15281                   |                     |                                 |                      |                                 |                                 |                                   |                   |      |     |                      |                |     |                           |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
|   |                 | STD                 | 0030                 | 2124                      | 3568         | 2496        | 0030118                                   | 0100                                  | 15267                   |                     |                                 |                      |                                 |                                 |                                   |                   |      |     |                      |                |     |                           |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
| 147   |                 | OBS                 | 0043                 | 2028                      | 35913        | 2540        |   |                                       | 15247                   |                     |                                 |                      |                                 |                                 |                                   |                   |      |     |                      |                |     |                           |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
|   |                 | STD                 | 0050                 | 1947                      | 3597         | 2566        | 0023583                                   | 0154                                  | 15226                   |                     |                                 |                      |                                 |                                 |                                   |                   |      |     |                      |                |     |                           |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
|   |                 | STD                 | 0075                 | 1735                      | 3612         | 2631        | 0017503                                   | 0205                                  | 15172                   |                     |                                 |                      |                                 |                                 |                                   |                   |      |     |                      |                |     |                           |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
| 147   |                 | OBS                 | 0084                 | 1687                      | 36158        | 2645        |   |                                       | 15159                   |                     |                                 |                      |                                 |                                 |                                   |                   |      |     |                      |                |     |                           |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
|   |                 | STD                 | 0100                 | 1681                      | 3619         | 2649        | 0015877                                   | 0247                                  | 15160                   |                     |                                 |                      |                                 |                                 |                                   |                   |      |     |                      |                |     |                           |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
| 147   |                 | OBS                 | 0120                 | 1650                      | 36219        | 2659        |   |                                       | 15155                   |                     |                                 |                      |                                 |                                 |                                   |                   |      |     |                      |                |     |                           |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
|   |                 | STD                 | 0125                 | 1631                      | 3618         | 2660        | 0014870                                   | 0285                                  | 15149                   |                     |                                 |                      |                                 |                                 |                                   |                   |      |     |                      |                |     |                           |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
|   |                 | STD                 | 0150                 | 1551                      | 3603         | 2667        | 0014281                                   | 0322                                  | 15127                   |                     |                                 |                      |                                 |                                 |                                   |                   |      |     |                      |                |     |                           |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
| 147   |                 | OBS                 | T0154                | 1541                      | 36010        | 2668        |   |                                       | 15124                   |                     |                                 |                      |                                 |                                 |                                   |                   |      |     |                      |                |     |                           |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
|   |                 | STD                 | 0200                 | 1502                      | 3597         | 2673        | 0013820                                   | 0392                                  | 15119                   |                     |                                 |                      |                                 |                                 |                                   |                   |      |     |                      |                |     |                           |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
| 147   |                 | OBS                 | 0226                 | 1475                      | 35933        | 2676        |   |                                       | 15114                   |                     |                                 |                      |                                 |                                 |                                   |                   |      |     |                      |                |     |                           |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
|   |                 | STD                 | 0250                 | 1437                      | 3586         | 2679        | 0013403                                   | 0460                                  | 15105                   |                     |                                 |                      |                                 |                                 |                                   |                   |      |     |                      |                |     |                           |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
|   |                 | STD                 | 0300                 | 1375                      | 3576         | 2685        | 0012987                                   | 0526                                  | 15092                   |                     |                                 |                      |                                 |                                 |                                   |                   |      |     |                      |                |     |                           |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
| 147   |                 | OBS                 | 0300                 | 1375                      | 35762        | 2685        |   |                                       | 15092                   |                     |                                 |                      |                                 |                                 |                                   |                   |      |     |                      |                |     |                           |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
| 147   |                 | OBS                 | T0368                | 1324                      | 35717        | 2692        |   |                                       | 15086                   |                     |                                 |                      |                                 |                                 |                                   |                   |      |     |                      |                |     |                           |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
|   |                 | STD                 | 0400                 | 1313                      | 3571         | 2693        | 0012401                                   | 0653                                  | 15088                   |                     |                                 |                      |                                 |                                 |                                   |                   |      |     |                      |                |     |                           |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
| 147   |                 | OBS                 | 0445                 | 1298                      | 35701        | 2696        |   |                                       | 15090                   |                     |                                 |                      |                                 |                                 |                                   |                   |      |     |                      |                |     |                           |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
|   |                 | STD                 | 0500                 | 1139                      | 3541         | 2704        | 0011502                                   | 0772                                  | 15041                   |                     |                                 |                      |                                 |                                 |                                   |                   |      |     |                      |                |     |                           |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
| 147   |                 | OBS                 | T0589                | 0937                      | 35101        | 2716        |   |                                       | 14979                   |                     |                                 |                      |                                 |                                 |                                   |                   |      |     |                      |                |     |                           |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
|   |                 | STD                 | 0600                 | 0923                      | 3510         | 2718        | 0010201                                   | 0881                                  | 14975                   |                     |                                 |                      |                                 |                                 |                                   |                   |      |     |                      |                |     |                           |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
|   |                 | STD                 | 0700                 | 0802                      | 3506         | 2734        | 0008733                                   | 0976                                  | 14946                   |                     |                                 |                      |                                 |                                 |                                   |                   |      |     |                      |                |     |                           |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
| 147   |                 | OBS                 | 0748                 | 0744                      | 35045        | 2741        |   |                                       | 14931                   |                     |                                 |                      |                                 |                                 |                                   |                   |      |     |                      |                |     |                           |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
|   |                 | STD                 | 0800                 | 0666                      | 3501         | 2749        | 0007217                                   | 1055                                  | 14909                   |                     |                                 |                      |                                 |                                 |                                   |                   |      |     |                      |                |     |                           |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
|   |                 | STD                 | 0900                 | 0549                      | 3497         | 2761        | 0006012                                   | 1121                                  | 14878                   |                     |                                 |                      |                                 |                                 |                                   |                   |      |     |                      |                |     |                           |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
| 147   |                 | OBS                 | T0946                | 0511                      | 34955        | 2765        |   |                                       | 14870                   |                     |                                 |                      |                                 |                                 |                                   |                   |      |     |                      |                |     |                           |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
|   |                 | STD                 | 1000                 | 0496                      | 3496         | 2767        | 0005505                                   | 1179                                  | 14873                   |                     |                                 |                      |                                 |                                 |                                   |                   |      |     |                      |                |     |                           |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
|   |                 | STD                 | 1100                 | 0468                      | 3497         | 2771        | 0005192                                   | 1232                                  | 14879                   |                     |                                 |                      |                                 |                                 |                                   |                   |      |     |                      |                |     |                           |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |
| 147   |                 | OBS                 | T1144                | 0456                      | 34971        | 2772        |   |                                       | 14881                   |                     |                                 |                      |                                 |                                 |                                   |                   |      |     |                      |                |     |                           |       |     |      |  |                           |              |  |             |                    |                         |               |                 |                     |                      |             |             |  |  |  |  |    |     |     |     |     |   |    |

| REFERENCE   | SHIP CODE    | LATITUDE<br>1/10 | LONGITUDE<br>1/10  | WARS DEN<br>SQUARE   | STATION TIME<br>IGMT | YEAR     | ORIGINATOR'S<br>CRUISE NO.                    | STATION<br>NUMBER                     | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPLING | WAVE<br>OBSERVATIONS            | WEA-<br>THER<br>CODE | CLOUD<br>CODES                  | NODC<br>STATION<br>NUMBER       |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
|---|--------------|------------------|--------------------|----------------------|----------------------|----------|---|---------------------------------------|-----------------------|---------------------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|------|--------------|-----------------|----------------------|------------|--------------|---------------|--------------------|----------|----------|----------|---|----------------------|--|--|--|----|-----|-----|-----|-----|---|----|
| 311158  | IN           | 4358 N           | 04101 W            | 149 31               | 09 13 127            | 1967     | 010   | 015                                   | 4700                  | 17 26 2                         |                                 |                      | 5 8                             | 0015                            |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
| <table><tr><th>WATER</th><th>WIND</th><th>AIR TEMP. °C</th><th>NO. OBS. DEPTHS</th><th>SPECIAL OBSERVATIONS</th></tr><tr><td>COLOR CODE</td><td>TRANS. METER</td><td>DIR. OF FORCE</td><td>BARO-METER (mbars)</td><td>DRY BULB</td><td>WET BULB</td><td>VIL CODE</td><td>NO. OBS. DEPTHS<th>SPECIAL OBSERVATIONS</th></td></tr><tr><td></td><td></td><td></td><td>34</td><td>515</td><td>190</td><td>183</td><td>178</td><td>7</td><td>14</td></tr></table> |              |                  |                    |                      |                      |          |   |                                       |                       |                                 |                                 |                      |                                 |                                 | WATER                             | WIND | AIR TEMP. °C | NO. OBS. DEPTHS | SPECIAL OBSERVATIONS | COLOR CODE | TRANS. METER | DIR. OF FORCE | BARO-METER (mbars) | DRY BULB | WET BULB | VIL CODE | NO. OBS. DEPTHS <th>SPECIAL OBSERVATIONS</th> | SPECIAL OBSERVATIONS |  |  |  | 34 | 515 | 190 | 183 | 178 | 7 | 14 |
| WATER   | WIND         | AIR TEMP. °C     | NO. OBS. DEPTHS    | SPECIAL OBSERVATIONS |                      |          |   |                                       |                       |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
| COLOR CODE  | TRANS. METER | DIR. OF FORCE    | BARO-METER (mbars) | DRY BULB             | WET BULB             | VIL CODE | NO. OBS. DEPTHS <th>SPECIAL OBSERVATIONS</th> | SPECIAL OBSERVATIONS                  |                       |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
|   |              |                  | 34                 | 515                  | 190                  | 183      | 178   | 7                                     | 14                    |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
| MESSAGE TIME<br>HR 1/10   | CASID<br>NO. | CARD<br>TYPE     | DEPTH (m)          | T °C                 | S ‰                  | SIGMA-T  | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub>     | Σ Δ D<br>DYN. M.<br>x 10 <sup>2</sup> | SOUND<br>VELOCITY     | O <sub>2</sub> ml/l             | PO <sub>4</sub> -P<br>μg - μl/l | TOTAL-P<br>μg - μl/l | NO <sub>3</sub> -N<br>μg - μl/l | NO <sub>3</sub> -N<br>μg - μl/l | SiO <sub>4</sub> -Si<br>μg - μl/l | pH   |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
| 127   |              | STD              | 0000               | 2269                 | 3578                 | 2464     | 0033134                                       | 0000                                  | 15301                 |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
|   |              | OBS              | 0000               | 2269                 | 35783                | 2464     |   |                                       | 15301                 |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
|   |              | STD              | 0010               | 2270                 | 3579                 | 2464     | 0033168                                       | 0033                                  | 15303                 |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
| 127   |              | STD              | 0020               | 2272                 | 3580                 | 2464     | 0033191                                       | 0066                                  | 15305                 |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
|   |              | OBS              | 0022               | 2272                 | 35797                | 2464     |   |                                       | 15305                 |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
|   |              | STD              | 0030               | 2218                 | 3592                 | 2488     | 0030879                                       | 0098                                  | 15294                 |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
| 127   |              | OBS              | 0042               | 2132                 | 36076                | 2524     |   |                                       | 15276                 |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
|   |              | STD              | 0050               | 2047                 | 3611                 | 2550     | 0025090                                       | 0154                                  | 15255                 |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
|   |              | STD              | 0075               | 1834                 | 3619                 | 2612     | 0019324                                       | 0210                                  | 15201                 |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
| 127   |              | OBS              | 0086               | 1767                 | 36211                | 2630     |   |                                       | 15184                 |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
|   |              | STD              | 0100               | 1730                 | 3621                 | 2639     | 0016832                                       | 0255                                  | 15175                 |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
|   |              | STD              | 0125               | 1668                 | 3620                 | 2653     | 0015548                                       | 0296                                  | 15161                 |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
| 127   |              | OBS              | 0130               | 1656                 | 36200                | 2656     |   |                                       | 15158                 |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
|   |              | STD              | 0150               | 1609                 | 3614                 | 2662     | 0014752                                       | 0333                                  | 15146                 |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
|   |              | OBS              | T0174              | 1560                 | 36073                | 2668     |   |                                       | 15134                 |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
| 127   |              | STD              | 0200               | 1527                 | 3601                 | 2671     | 0014064                                       | 0405                                  | 15128                 |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
|   |              | STD              | 0250               | 1466                 | 3590                 | 2676     | 0013718                                       | 0475                                  | 15115                 |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
|   |              | OBS              | 0264               | 1450                 | 35880                | 2678     |   |                                       | 15112                 |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
| 127   |              | STD              | 0300               | 1409                 | 3583                 | 2683     | 0013187                                       | 0542                                  | 15104                 |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
|   |              | OBS              | 0355               | 1353                 | 35773                | 2690     |   |                                       | 15094                 |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
|   |              | STD              | 0400               | 1320                 | 3574                 | 2694     | 0012318                                       | 0670                                  | 15090                 |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
| 127   |              | OBS              | T0449              | 1273                 | 35686                | 2700     |   |                                       | 15082                 |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
|   |              | STD              | 0500               | 1192                 | 3555                 | 2705     | 0011473                                       | 0789                                  | 15061                 |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
|   |              | STD              | 0600               | 1039                 | 3534                 | 2717     | 0010436                                       | 0898                                  | 15021                 |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
| 127   |              | OBS              | 0640               | 0950                 | 35241                | 2724     |   |                                       | 14997                 |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
|   |              | STD              | 0700               | 0882                 | 3520                 | 2732     | 0008988                                       | 0995                                  | 14978                 |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
|   |              | STD              | 0800               | 0734                 | 3511                 | 2748     | 0007490                                       | 1078                                  | 14937                 |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
| 127   |              | OBS              | T0888              | 0633                 | 35055                | 2757     |   |                                       | 14911                 |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
|   |              | STD              | 0900               | 0623                 | 3505                 | 2758     | 0006450                                       | 1147                                  | 14909                 |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
|   |              | STD              | 1000               | 0552                 | 3503                 | 2766     | 0005736                                       | 1208                                  | 14897                 |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
| 127   |              | OBS              | 1099               | 0497                 | 35013                | 2771     |   |                                       | 14891                 |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
|   |              | STD              | 1100               | 0497                 | 3501                 | 2771     | 0005257                                       | 1263                                  | 14891                 |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
|   |              | STD              | 1200               | 0468                 | 3500                 | 2773     | 0005054                                       | 1315                                  | 14896                 |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
| 127   |              | STD              | 1300               | 0444                 | 3498                 | 2774     | 0004985                                       | 1365                                  | 14902                 |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
|   |              | OBS              | T1375              | 0428                 | 34973                | 2776     |   |                                       | 14908                 |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
|   |              | STD              | 1400               | 0423                 | 3497                 | 2776     | 0004879                                       | 1414                                  | 14910                 |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
| 127   |              | STD              | 1500               | 0406                 | 3496                 | 2777     | 0004820                                       | 1463                                  | 14920                 |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |
|   |              | OBS              | T1653              | 0387                 | 34944                | 2778     |   |                                       | 14937                 |                                 |                                 |                      |                                 |                                 |                                   |      |              |                 |                      |            |              |               |                    |          |          |          |   |                      |  |  |  |    |     |     |     |     |   |    |



TABLE I.—Continued

| REFERENCE<br>CITY<br>CODE   | SHIP<br>CODE | LATITUDE<br>° ' 1/10 | LONGITUDE<br>° ' 1/10 | WAVE<br>MOON  | MARSDEN<br>SQUARE |         | STATION TIME<br>(GMT)          |                                       | YEAR              | ORIGINATOR'S        |                                 | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPLE   | WAVE<br>OBSERVATIONS            |                                   |     | WEA-<br>THER<br>CODE | CLOUD<br>CODE | NODC<br>STATION<br>NUMBER |      |     |      |     |  |  |  |  |  |
|-----------------------------|--------------|----------------------|-----------------------|---------------|-------------------|---------|--------------------------------|---------------------------------------|-------------------|---------------------|---------------------------------|-----------------------|---------------------------------|---------------------------------|-----------------------------------|-----|----------------------|---------------|---------------------------|------|-----|------|-----|--|--|--|--|--|
|                             |              |                      |                       |               | 10"               | 1"      | MO                             | DAY                                   |                   | HR. 1/10            | CRUISE<br>NO.                   |                       |                                 | STATION<br>NUMBER               | DIR                               | HGT |                      |               |                           | PER  | SEA | TYPE | AMT |  |  |  |  |  |
| 311158                      | IN           | 4353 N               | 04105 W               |               | 149               | 31      | 09                             | 14                                    | 120               | 1967                | D10                             | 016                   | 4500                            | 15                              | 35                                | 2   |                      | 8             | 2                         | 0016 |     |      |     |  |  |  |  |  |
|                             |              |                      |                       |               |                   |         |                                |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
|                             |              |                      |                       | WATER         |                   | WIND    |                                | BARO-<br>METER                        |                   | AIR TEMP. °C        |                                 | NO. OBS.<br>DEPTH     |                                 | SPECIAL<br>OBSERVATIONS         |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
|                             |              |                      |                       | COLOR<br>CODE | TRANS.<br>MM      | DIR.    | SPED<br>OF<br>FORCE            | DRY<br>BULB                           | WET<br>BULB       | VIS.<br>CODE        | NO. OBS.<br>DEPTH               |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
|                             |              |                      |                       | 43            | 36                | 505     | 301                            | 172                                   | 139               | 8                   | 14                              |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
| MESSAGE<br>TIME<br>HR. 1/10 | CARD<br>NO.  | CARD<br>TYPE         | DEPTH<br>m            | T °C          | S ‰               | SIGMA-T | SPECIFIC VOLUME<br>ANOMALY-20° | Σ Δ D<br>DYN. M.<br>± 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l  | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SIO <sub>4</sub> -Si<br>μg - ml/l | pH  | Σ C                  |               |                           |      |     |      |     |  |  |  |  |  |
| 126                         |              | STD                  | 0000                  | 2217          | 3582              | 2481    | 0031495                        | 0000                                  | 15288             |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
|                             |              | OBS                  | 0000                  | 2217          | 35815             | 2481    |                                |                                       | 15288             |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
|                             |              | STD                  | 0010                  | 2218          | 3582              | 2481    | 0031548                        | 0032                                  | 15290             |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
| 126                         |              | STD                  | 0020                  | 2219          | 3582              | 2481    | 0031600                        | 0063                                  | 15292             |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
|                             |              | OBS                  | 0025                  | 2219          | 35817             | 2480    |                                |                                       | 15293             |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
|                             |              | STD                  | 0030                  | 2144          | 3584              | 2503    | 0029486                        | 0094                                  | 15274             |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
| 126                         |              | STD                  | 0050                  | 1906          | 3596              | 2576    | 0022617                        | 0146                                  | 15215             |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
|                             |              | OBS                  | 0050                  | 1906          | 35964             | 2576    |                                |                                       | 15215             |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
|                             |              | STD                  | 0075                  | 1807          | 3624              | 2622    | 0018318                        | 0197                                  | 15194             |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
| 126                         |              | OBS                  | 0099                  | 1731          | 36368             | 2651    |                                |                                       | 15177             |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
|                             |              | STD                  | 0100                  | 1729          | 3636              | 2650    | 0015706                        | 0239                                  | 15177             |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
|                             |              | STD                  | 0125                  | 1676          | 3627              | 2656    | 0015229                        | 0278                                  | 15164             |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
| 126                         |              | OBS                  | 0147                  | 1633          | 36190             | 2660    |                                |                                       | 15154             |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
|                             |              | STD                  | 0150                  | 1628          | 3618              | 2661    | 0014884                        | 0316                                  | 15153             |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
|                             |              | OBS                  | 0197                  | 1547          | 36052             | 2669    |                                |                                       | 15134             |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
| 126                         |              | STD                  | 0200                  | 1543          | 3604              | 2669    | 0014191                        | 0388                                  | 15133             |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
|                             |              | STD                  | 0250                  | 1471          | 3593              | 2677    | 0013605                        | 0458                                  | 15117             |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
|                             |              | OBS                  | 0255                  | 1413          | 35845             | 2683    |                                |                                       | 15105             |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
| 126                         |              | STD                  | 0300                  | 1408          | 3584              | 2684    | 0013094                        | 0525                                  | 15104             |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
|                             |              | OBS                  | 0392                  | 1306          | 35689             | 2693    |                                |                                       | 15084             |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
|                             |              | STD                  | 0400                  | 1259          | 3568              | 2694    | 0012338                        | 0652                                  | 15082             |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
| 126                         |              | OBS                  | T0493                 | 1186          | 35520             | 2704    |                                |                                       | 15057             |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
|                             |              | STD                  | 0500                  | 1172          | 3550              | 2705    | 0011460                        | 0771                                  | 15053             |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
|                             |              | OBS                  | 0588                  | 1012          | 35260             | 2715    |                                |                                       | 15008             |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
| 126                         |              | STD                  | 0600                  | 0993          | 3525              | 2718    | 0010289                        | 0880                                  | 15003             |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
|                             |              | STD                  | 0700                  | 0845          | 3515              | 2734    | 0008754                        | 0975                                  | 14963             |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
|                             |              | OBS                  | T0785                 | 0738          | 35083             | 2745    |                                |                                       | 14936             |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
| 126                         |              | STD                  | 0800                  | 0721          | 3508              | 2747    | 0007514                        | 1056                                  | 14932             |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
|                             |              | STD                  | 0900                  | 0622          | 3504              | 2758    | 0006509                        | 1126                                  | 14909             |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
|                             |              | OBS                  | 0980                  | 0559          | 35020             | 2764    |                                |                                       | 14896             |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
| 126                         |              | STD                  | 1000                  | 0549          | 3502              | 2765    | 0005791                        | 1188                                  | 14896             |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
|                             |              | STD                  | 1100                  | 0504          | 3500              | 2769    | 0005417                        | 1244                                  | 14894             |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
|                             |              | STD                  | 1200                  | 0467          | 3498              | 2772    | 0005158                        | 1297                                  | 14895             |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
| 126                         |              | OBS                  | 1227                  | 0459          | 34980             | 2773    |                                |                                       | 14896             |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
|                             |              | STD                  | 1300                  | 0439          | 3498              | 2775    | 0004934                        | 1347                                  | 14900             |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
|                             |              | STD                  | 1400                  | 0420          | 3498              | 2777    | 0004802                        | 1396                                  | 14909             |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |
| 126                         |              | OBS                  | T1474                 | 0411          | 34973             | 2777    |                                |                                       | 14918             |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |  |  |  |  |  |

| REFERENCE<br>CITY<br>CODE   | SHIP<br>CODE | LATITUDE<br>° ' 1/10 | LONGITUDE<br>° ' 1/10 | WAVE<br>MOON  | MARSDEN<br>SQUARE |         | STATION TIME<br>(GMT)          |                                       | YEAR              | ORIGINATOR'S        |                                 | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPLE   | WAVE<br>OBSERVATIONS            |                                   |     | WEA-<br>THER<br>CODE | CLOUD<br>CODE | NODC<br>STATION<br>NUMBER |      |     |      |     |
|-----------------------------|--------------|----------------------|-----------------------|---------------|-------------------|---------|--------------------------------|---------------------------------------|-------------------|---------------------|---------------------------------|-----------------------|---------------------------------|---------------------------------|-----------------------------------|-----|----------------------|---------------|---------------------------|------|-----|------|-----|
|                             |              |                      |                       |               | 10"               | 1"      | MO                             | DAY                                   |                   | HR. 1/10            | CRUISE<br>NO.                   |                       |                                 | STATION<br>NUMBER               | DIR                               | HGT |                      |               |                           | PER  | SEA | TYPE | AMT |
| 311158                      | IN           | 4353 N               | 04103 W               |               | 149               | 31      | 09                             | 15                                    | 126               | 1967                | D10                             | 017                   | 4700                            | 14                              | 24                                | 2   |                      | 4             | 7                         | 0017 |     |      |     |
|                             |              |                      |                       |               |                   |         |                                |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |
|                             |              |                      |                       | WATER         |                   | WIND    |                                | BARO-<br>METER                        |                   | AIR TEMP. °C        |                                 | NO. OBS.<br>DEPTH     |                                 | SPECIAL<br>OBSERVATIONS         |                                   |     |                      |               |                           |      |     |      |     |
|                             |              |                      |                       | COLOR<br>CODE | TRANS.<br>MM      | DIR.    | SPED<br>OF<br>FORCE            | DRY<br>BULB                           | WET<br>BULB       | VIS.<br>CODE        | NO. OBS.<br>DEPTH               |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |
|                             |              |                      |                       | 24            | 510               | 261     | 211                            | 183                                   | 7                 | 14                  |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |
| MESSAGE<br>TIME<br>HR. 1/10 | CARD<br>NO.  | CARD<br>TYPE         | DEPTH<br>m            | T °C          | S ‰               | SIGMA-T | SPECIFIC VOLUME<br>ANOMALY-20° | Σ Δ D<br>DYN. M.<br>± 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l  | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SIO <sub>4</sub> -Si<br>μg - ml/l | pH  | Σ C                  |               |                           |      |     |      |     |
| 126                         |              | STD                  | 0000                  | 2214          | 3577              | 2478    |                                |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |
|                             |              | OBS                  | 0000                  | 2214          | 35769             | 2478    |                                | 0031747                               | 0000              |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |
|                             |              | STD                  | 0010                  | 2201          | 3582              | 2486    |                                | 0031068                               | 0031              |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |
|                             |              | STD                  | 0020                  | 2141          | 3591              | 2509    |                                | 0028864                               | 0061              |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |
| 126                         |              | OBS                  | 0023                  | 2114          | 35546             | 2519    |                                |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |
|                             |              | STD                  | 0030                  | 1985          | 3610              | 2566    |                                | 0023517                               | 0088              |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |
| 126                         |              | OBS                  | 0046                  | 1765          | 36362             | 2642    |                                |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |
|                             |              | STD                  | 0050                  | 1763          | 3636              | 2642    |                                | 0016325                               | 0127              |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |
|                             |              | STD                  | 0075                  | 1748          | 3632              | 2643    |                                | 0016352                               | 0168              |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |
| 126                         |              | OBS                  | 0093                  | 1731          | 36272             | 2643    |                                |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |
|                             |              | STD                  | 0100                  | 1723          | 3625              | 2644    |                                | 0016366                               | 0209              |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |
|                             |              | STD                  | 0125                  | 1689          | 3616              | 2645    |                                | 0016323                               | 0250              |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |
| 126                         |              | OBS                  | 0138                  | 1669          | 36118             | 2646    |                                |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |
|                             |              | STD                  | 0150                  | 1646          | 3607              | 2648    |                                | 0016086                               | 0291              |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |
| 126                         |              | OBS                  | 0164                  | 1581          |                   |         |                                |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |
|                             |              | STD                  | 0200                  | 1541          | 3589              | 2658    |                                | 0015239                               | 0369              |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |
|                             |              | STD                  | 0250                  | 1436          | 3577              | 2672    |                                | 0014038                               | 0442              |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |
| 126                         |              | OBS                  | 0276                  | 1395          | 35732             | 2678    |                                |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |
|                             |              | STD                  | 0300                  | 1377          | 3573              | 2682    |                                | 0013275                               | 0510              |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |
| 126                         |              | OBS                  | 0368                  | 1320          | 35718             | 2693    |                                |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |
|                             |              | STD                  | 0400                  | 1287          | 3558              | 2689    |                                | 0012830                               | 0641              |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |
| 126                         |              | OBS                  | T0460                 |               | 35369             |         |                                |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |
|                             |              | STD                  | 0500                  | 1173          | 3529              | 2688    |                                | 0013011                               | 0770              |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |
| 126                         |              | OBS                  | 0549                  | 1110          |                   |         |                                |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |
|                             |              | STD                  | 0600                  | 1035          | 3512              | 2700    |                                | 0011973                               | 0895              |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |
|                             |              | STD                  | 0700                  | 0885          | 3502              | 2718    |                                | 0010350                               | 1007              |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |
| 126                         |              | OBS                  | T0716                 | 0861          | 35007             | 2721    |                                |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |
|                             |              | STD                  | 0800                  | 0711          | 3500              | 2742    |                                | 0007952                               | 1098              |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |
| 126                         |              | OBS                  | 0850                  | 0592          | 34996             | 2758    |                                |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |
|                             |              | STD                  | 0900                  | 0586          | 3500              | 2759    |                                | 0006334                               | 1170              |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |
|                             |              | STD                  | 1000                  | 0530          | 3498              | 2765    |                                | 0005804                               | 1230              |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |
|                             |              | STD                  | 1100                  | 0485          | 3457              | 2769    |                                | 0005428                               | 1286              |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |
| 126                         |              | OBS                  | T1115                 | 0479          | 34563             | 2769    |                                |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |
|                             |              | STD                  | 1200                  | 0451          | 3497              | 2773    |                                | 0005035                               | 1339              |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |
|                             |              | STD                  | 1300                  | 0429          | 3498              | 2776    |                                | 0004773                               | 1388              |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |
| 126                         |              | OBS                  | T1355                 | 0422          | 34988             | 2777    |                                |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |      |     |      |     |



TABLE I.—Continued

| REFERENCE<br>CHIT<br>CODE  | SHIP<br>CODE | LATITUDE<br>° | LONGITUDE<br>° | MARSSEN<br>SQUARE | STATION TIME   |                |  | YEAR  | ORIGINATOR'S      |                     | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLES | WAVE<br>OBSERVATIONS            |                                 |                                   | WEA-<br>THER<br>CODE | CLOUD<br>CODES | NDDC<br>STATION<br>NUMBER |      |
|----------------------------|--------------|---------------|----------------|-------------------|----------------|----------------|--|---|-------------------|---------------------|---------------------------------|--------------------------------|---------------------------------|---------------------------------|-----------------------------------|----------------------|----------------|---------------------------|------|
|                            |              |               |                |                   | 10°            | 1°             | MO                                     |   | CRUISE<br>NO.     | STATION<br>NUMBER   |                                 |                                | DIR                             | HGT                             | PER                               |                      |                |                           |      |
| 311158                     | IN           | 4358 N        | 04112 W        |                   | 149            | 31             | 09                                     | 16  | 126               | 1967                | 010                             | 018                            | 4600                            | 15                              | 34                                | 1                    |                | 7 4                       | 0018 |
|                            |              |               |                |                   | WATER          |                | WIND                                   |   | BARO-<br>METER    |                     | AIR TEMP. °C                    |                                | VIS.<br>CODE                    | NO.<br>OBS.<br>DEPTH            | SPECIAL<br>OBSERVATIONS           |                      |                |                           |      |
|                            |              |               |                |                   | COLDER<br>CODE | TRANS.<br>DIR. | DIR.                                   | SPED<br>OR<br>FORCE                             | METER<br>(mm)     |                     | DRY<br>BULB                     | WET<br>BULB                    |                                 |                                 |                                   |                      |                |                           |      |
|                            |              |               |                |                   | 34             | S03            |  | 281   | 178               | 156                 | 7                               | 14                             |                                 |                                 |                                   |                      |                |                           |      |
| MESSAGE<br>TIME<br>HR 1/10 | CAST<br>NO.  | CARD<br>TYPE  | DEPTH (m)      | T °C              | S ‰            | SIGMA-T        | SPECIFIC VOLUME<br>ANOMALY- $\sigma_t$ | $\Sigma \Delta$ D<br>DYN. M.<br>10 <sup>3</sup> | SOUND<br>VELOCITY | D <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>µg - ml/l | TOTAL-P<br>µg - ml/l           | NO <sub>3</sub> -N<br>µg - ml/l | NO <sub>2</sub> -N<br>µg - ml/l | SiO <sub>4</sub> -Si<br>µg - ml/l | pH                   | 1<br>°C        |                           |      |
| 126                        | STD          | 0000          | 2223           | 3590              | 2485           | 0031064        | 0000                                   | 15291   |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                |                           |      |
|                            | OBS          | 0000          | 2223           | 35897             | 2485           |                |  | 15291   |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                |                           |      |
|                            | STD          | 0010          | 2223           | 3590              | 2485           | 0031106        | 0031                                   | 15292   |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                |                           |      |
| 126                        | STD          | 0020          | 2222           | 3589              | 2485           | 0031141        | 0062                                   | 15294   |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                |                           |      |
|                            | OBS          | 0025          | 2222           | 35893             | 2485           |                |  | 15294   |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                |                           |      |
|                            | STD          | 0030          | 2156           | 3593              | 2507           | 0029153        | 0092                                   | 15279   |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                |                           |      |
| 126                        | STD          | 0050          | 1933           | 3606              | 2576           | 0022585        | 0144                                   | 15224   |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                |                           |      |
|                            | OBS          | 0051          | 1924           | 36068             | 2579           |                |  | 15221   |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                |                           |      |
|                            | STD          | 0075          | 1797           | 3613              | 2616           | 0018901        | 0196                                   | 15190   |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                |                           |      |
| 126                        | STD          | 0100          | 1692           | 3619              | 2646           | 0016105        | 0240                                   | 15164   |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                |                           |      |
|                            | OBS          | 0103          | 1681           | 36195             | 2649           |                |  | 15161   |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                |                           |      |
|                            | STD          | 0125          | 1622           | 3612              | 2657           | 0015105        | 0279                                   | 15146   |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                |                           |      |
| 126                        | STD          | 0150          | 1568           | 3605              | 2665           | 0014505        | 0316                                   | 15133   |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                |                           |      |
|                            | OBS          | 0154          | 1561           | 36037             | 2665           |                |  | 15131   |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                |                           |      |
|                            | STD          | 0200          | 1503           | 3557              | 2673           | 0013841        | 0387                                   | 15120   |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                |                           |      |
| 126                        | OBS          | T0206         | 1496           | 35956             | 2673           |                |  | 15118   |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                |                           |      |
|                            | STD          | 0250          | 1445           | 3588              | 2679           | 0013424        | 0455                                   | 15108   |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                |                           |      |
|                            | STD          | 0300          | 1391           | 3580              | 2684           | 0013036        | 0521                                   | 15098   |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                |                           |      |
| 126                        | OBS          | 0308          | 1383           | 35793             | 2685           |                |  | 15097   |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                |                           |      |
|                            | STD          | 0400          | 1302           | 3570              | 2695           | 0012251        | 0647                                   | 15084   |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                |                           |      |
|                            | OBS          | 0409          | 1293           | 35686             | 2696           |                |  | 15082   |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                |                           |      |
| 126                        | STD          | 0500          | 1191           | 3553              | 2704           | 0011600        | 0767                                   | 15060   |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                |                           |      |
|                            | OBS          | T0506         | 1182           | 35519             | 2704           |                |  | 15058   |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                |                           |      |
|                            | STD          | 0600          | 1008           | 3528              | 2718           | 0010330        | 0876                                   | 15009   |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                |                           |      |
| 126                        | OBS          | 0609          | 0992           | 35258             | 2719           |                |  | 15004   |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                |                           |      |
|                            | STD          | 0700          | 0838           | 3516              | 2736           | 0008569        | 0971                                   | 14961   |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                |                           |      |
|                            | STD          | 0800          | 0701           | 3508              | 2750           | 0007215        | 1050                                   | 14924   |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                |                           |      |
| 126                        | OBS          | T0806         | 0694           | 35077             | 2751           |                |  | 14922   |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                |                           |      |
|                            | STD          | 0900          | 0604           | 3504              | 2760           | 0006254        | 1117                                   | 14901   |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                |                           |      |
|                            | STD          | 1000          | 0529           | 3502              | 2768           | 0005497        | 1176                                   | 14888   |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                |                           |      |
| 126                        | OBS          | 1007          | 0525           | 35014             | 2768           |                |  | 14887   |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                |                           |      |
|                            | STD          | 1100          | 0487           | 3500              | 2771           | 0005197        | 1229                                   | 14887   |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                |                           |      |
|                            | STD          | 1200          | 0453           | 3498              | 2773           | 0005002        | 1280                                   | 14889   |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                |                           |      |
| 126                        | OBS          | T1261         | 0436           | 34969             | 2774           |                |  | 14892   |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                |                           |      |
|                            | STD          | 1300          | 0426           | 3496              | 2775           | 0004895        | 1330                                   | 14895   |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                |                           |      |
|                            | STD          | 1400          | 0406           | 3495              | 2776           | 0004802        | 1378                                   | 14903   |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                |                           |      |
| 126                        | STD          | 1500          | 0393           | 3494              | 2777           | 0004794        | 1426                                   | 14914   |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                |                           |      |
|                            | OBS          | T1511         | 0392           | 34938             | 2777           |                |  | 14916   |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                |                           |      |



TABLE II.—Observed and interpolated oceanographic data for stations taken by USCGC CHINOCOTEAGUE at Ocean Station DELTA, 22 September–10 October 1967, prepared from NODC listing No. 31-1171 CC.

| REFERENCE<br>CITY<br>CODE   | SHIP<br>CODE | LATITUDE<br>1/10 | LONGITUDE<br>1/10 | NODC<br>NUMBER | MARSDEN<br>SQUARE |                |                                | STATION TIME<br>(GMT)                |                   |                     | YEAR                            | ORIGINATOR'S         |                                 | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLE     | WAVE<br>OBSERVATIONS |       |   | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |   |      |
|-----------------------------|--------------|------------------|-------------------|----------------|-------------------|----------------|--------------------------------|--------------------------------------|-------------------|---------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|----------------------|-------|---|----------------|---------------------------|---|------|
|                             |              |                  |                   |                | 10"               | 1"             | MO                             | DAY                                  | HR./10            | CRUISE<br>NO.       |                                 | STATION<br>NUMBER    | DIR                             |                                 |                                   | HGT                  | SEA   |   |                |                           |   |      |
| 311171                      | CC           | 4401 N           | 04056 W           |                | 149               | 40             | 09                             | 22                                   | 182               | 1967                | J11                             | 001                  |                                 | 4572                            | 14                                | 34                   | 4     | 3 |                | 8                         | 6 | 0001 |
|                             |              |                  |                   |                | WATER             |                | WIND                           |                                      | BARO-<br>METER    |                     | AIR TEMP. °C                    |                      | VIS.<br>CODE                    | NO.<br>OBS.<br>DEPTH            | SPECIAL<br>OBSERVATIONS           |                      |       |   |                |                           |   |      |
|                             |              |                  |                   |                | COLOR<br>CODE     | TRANSL.<br>(m) | DIR.                           | SPEED<br>OR<br>FORCE                 | mbat              | mbat                | DRY<br>BULB                     | WET<br>BULB          |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              |                  |                   |                |                   |                |                                | 34                                   | 515               | 173                 | 183                             | 161                  | 7                               | 14                              |                                   |                      |       |   |                |                           |   |      |
| MESSAGE<br>TIME<br>HR. 1/10 | CASST<br>NO. | CARD<br>TYPE     | DEPTH (m)         | T °C           | S ‰               | SIGMA-T        | SPECIFIC VOLUME<br>ANOMALY-30° | S.D.D.<br>DYN. AL. x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>µg - ml/l | TOTAL-P<br>µg - ml/l | NO <sub>3</sub> -N<br>µg - ml/l | NO <sub>2</sub> -N<br>µg - ml/l | SiO <sub>4</sub> -Si<br>µg - ml/l | pH                   | COND. |   |                |                           |   |      |
| 182                         |              | STD              | 0000              | 2158           | 3620              | 2527           | 0027133                        | 0000                                 | 15277             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | OBS              | 0000              | 2158           | 36201             | 2527           |                                |                                      | 15277             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 0010              | 2158           | 3620              | 2526           | 0027197                        | 0027                                 | 15279             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 0020              | 2159           | 3620              | 2526           | 0027253                        | 0054                                 | 15281             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
| 182                         |              | OBS              | 0024              | 2159           | 36197             | 2526           |                                |                                      | 15282             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 0030              | 2052           | 3626              | 2560           | 0024059                        | 0080                                 | 15255             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
| 182                         |              | OBS              | 0048              | 1806           | 36386             | 2634           |                                |                                      | 15191             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 0050              | 1801           | 3639              | 2635           | 0017037                        | 0121                                 | 15190             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 0075              | 1735           | 3637              | 2650           | 0015701                        | 0162                                 | 15175             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
| 182                         |              | OBS              | 0096              | 1685           | 36353             | 2661           |                                |                                      | 15163             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 0100              | 1677           | 3633              | 2661           | 0014732                        | 0200                                 | 15161             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 0125              | 1627           | 3619              | 2662           | 0014708                        | 0237                                 | 15148             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
| 182                         |              | OBS              | 0145              |                | 36111             |                |                                |                                      |                   |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 0150              | 1581           | 3610              | 2665           | 0014426                        | 0273                                 | 15137             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
| 182                         |              | OBS              | 0196              | 1504           | 35991             | 2674           |                                |                                      | 15119             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 0200              | 1497           | 3598              | 2675           | 0013641                        | 0343                                 | 15118             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 0250              | 1425           | 3584              | 2680           | 0013300                        | 0411                                 | 15101             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
| 182                         |              | OBS              | T0292             | 1377           | 35759             | 2684           |                                |                                      | 15092             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 0300              | 1375           | 3575              | 2684           | 0013060                        | 0477                                 | 15092             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
| 182                         |              | OBS              | 0386              | 1315           | 35675             | 2690           |                                |                                      | 15085             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 0400              | 1297           | 3562              | 2690           | 0012735                        | 0606                                 | 15081             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
| 182                         |              | OBS              | 0483              | 1158           | 35385             | 2699           |                                |                                      | 15044             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 0500              | 1112           | 3537              | 2706           | 0011299                        | 0726                                 | 15031             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
| 182                         |              | OBS              | T0576             | 0931           | 35299             | 2732           |                                |                                      | 14977             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 0600              | 0894           | 3528              | 2737           | 0008404                        | 0824                                 | 14967             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 0700              | 0755           | 3519              | 2751           | 0007054                        | 0902                                 | 14930             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
| 182                         |              | OBS              | 0771              | 0671           | 35138             | 2759           |                                |                                      | 14908             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 0800              | 0639           | 3512              | 2762           | 0006020                        | 0967                                 | 14900             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 0900              | 0547           | 3506              | 2769           | 0005322                        | 1024                                 | 14879             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
| 182                         |              | OBS              | T0968             | 0500           | 35034             | 2772           |                                |                                      | 14871             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 1000              | 0488           | 3503              | 2773           | 0004878                        | 1075                                 | 14871             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 1100              | 0457           | 3500              | 2775           | 0004803                        | 1123                                 | 14874             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 1200              | 0433           | 3498              | 2776           | 0004742                        | 1171                                 | 14881             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
| 182                         |              | OBS              | 1209              | 0431           | 34979             | 2776           |                                |                                      | 14882             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 1300              | 0417           | 3497              | 2777           | 0004712                        | 1218                                 | 14891             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 1400              | 0409           | 3496              | 2776           | 0004789                        | 1266                                 | 14904             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
| 182                         |              | OBS              | T1450             | 0408           | 34951             | 2776           |                                |                                      | 14912             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |

| REFERENCE<br>CITY<br>CODE   | SHIP<br>CODE | LATITUDE<br>1/10 | LONGITUDE<br>1/10 | NODC<br>NUMBER | MARSDEN<br>SQUARE |                |                                | STATION TIME<br>(GMT)                |                   |                     | YEAR                            | ORIGINATOR'S         |                                 | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLE     | WAVE<br>OBSERVATIONS |       |   | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |   |      |
|-----------------------------|--------------|------------------|-------------------|----------------|-------------------|----------------|--------------------------------|--------------------------------------|-------------------|---------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|----------------------|-------|---|----------------|---------------------------|---|------|
|                             |              |                  |                   |                | 10"               | 1"             | MO                             | DAY                                  | HR./10            | CRUISE<br>NO.       |                                 | STATION<br>NUMBER    | DIR                             |                                 |                                   | HGT                  | SEA   |   |                |                           |   |      |
| 311171                      | CC           | 43580N           | 040570W           |                | 149               | 30             | 09                             | 23                                   | 119               | 1967                | O11                             | 002                  |                                 | 4572                            | 15                                | 35                   | 2     | 3 |                | 3                         | 6 | 0002 |
|                             |              |                  |                   |                | WATER             |                | WIND                           |                                      | BARO-<br>METER    |                     | AIR TEMP. °C                    |                      | VIS.<br>CODE                    | NO.<br>OBS.<br>DEPTH            | SPECIAL<br>OBSERVATIONS           |                      |       |   |                |                           |   |      |
|                             |              |                  |                   |                | COLOR<br>CODE     | TRANSL.<br>(m) | DIR.                           | SPEED<br>OR<br>FORCE                 | mbat              | mbat                | DRY<br>BULB                     | WET<br>BULB          |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              |                  |                   |                |                   |                |                                | 03                                   | 505               | 163                 | 183                             | 156                  | 7                               | 14                              |                                   |                      |       |   |                |                           |   |      |
| MESSAGE<br>TIME<br>HR. 1/10 | CASST<br>NO. | CARD<br>TYPE     | DEPTH (m)         | T °C           | S ‰               | SIGMA-T        | SPECIFIC VOLUME<br>ANOMALY-30° | S.D.D.<br>DYN. AL. x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>µg - ml/l | TOTAL-P<br>µg - ml/l | NO <sub>3</sub> -N<br>µg - ml/l | NO <sub>2</sub> -N<br>µg - ml/l | SiO <sub>4</sub> -Si<br>µg - ml/l | pH                   | COND. |   |                |                           |   |      |
| 119                         |              | STD              | 0000              | 2057           | 3612              | 2548           | 0025118                        | 0000                                 | 15250             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | OBS              | 0000              | 2057           | 36116             | 2548           |                                |                                      | 15250             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 0010              | 2058           | 3612              | 2548           | 0025161                        | 0025                                 | 15252             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 0020              | 2059           | 3612              | 2548           | 0025204                        | 0050                                 | 15254             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
| 119                         |              | OBS              | 0025              | 2059           | 36121             | 2548           |                                |                                      | 15254             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 0030              | 1987           | 3618              | 2571           | 0022988                        | 0074                                 | 15237             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 0050              | 1770           | 3637              | 2641           | 0016394                        | 0114                                 | 15181             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
| 119                         |              | OBS              | 0050              | 1770           | 36373             | 2641           |                                |                                      | 15181             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 0075              | 1758           | 3637              | 2644           | 0016214                        | 0155                                 | 15181             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 0100              | 1724           | 3637              | 2652           | 0015525                        | 0194                                 | 15176             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
| 119                         |              | OBS              | 0100              | 1724           | 36369             | 2652           |                                |                                      | 15176             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 0125              | 1645           | 3623              | 2661           | 0014819                        | 0232                                 | 15154             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 0150              | 1588           | 3612              | 2665           | 0014434                        | 0269                                 | 15140             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
| 119                         |              | OBS              | 0152              | 1564           | 36118             | 2666           |                                |                                      | 15139             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 0200              | 1540           | 3605              | 2671           | 0014054                        | 0340                                 | 15132             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
| 119                         |              | OBS              | 0205              | 1535           | 36041             | 2671           |                                |                                      | 15131             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 0250              | 1461           | 3591              | 2678           | 0013540                        | 0409                                 | 15114             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 0300              | 1394           | 3580              | 2684           | 0013098                        | 0476                                 | 15099             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
| 119                         |              | OBS              | T0306             | 1387           | 35788             | 2684           |                                |                                      | 15097             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 0400              | 1313           | 3573              | 2695           | 0012251                        | 0602                                 | 15086             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
| 119                         |              | OBS              | T0408             | 1303           | 35723             | 2696           |                                |                                      | 15086             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 0500              | 1139           | 3559              | 2718           | 0010188                        | 0714                                 | 15043             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
| 119                         |              | OBS              | 0508              | 1123           | 35573             | 2720           |                                |                                      | 15039             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 0600              | 0918           | 3540              | 2742           | 0007920                        | 0805                                 | 14977             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
| 119                         |              | OBS              | T0605             | 0908           | 35392             | 2743           |                                |                                      | 14975             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 0700              | 0766           | 3523              | 2753           | 0006928                        | 0879                                 | 14934             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 0800              | 0647           | 3511              | 2760           | 0006208                        | 0945                                 | 14903             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
| 119                         |              | OBS              | 0810              | 0637           | 35105             | 2761           |                                |                                      | 14901             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 0900              | 0565           | 3508              | 2768           | 0005419                        | 1003                                 | 14886             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 1000              | 0504           | 3506              | 2774           | 0004868                        | 1054                                 | 14876             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
| 119                         |              | OBS              | T1016             | 0456           | 35054             | 2774           |                                |                                      | 14877             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 1100              | 0473           | 3502              | 2774           | 0004865                        | 1103                                 | 14881             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 1200              | 0450           | 3459              | 2775           | 0004884                        | 1152                                 | 14886             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
| 119                         |              | OBS              | 1269              | 0436           | 34973             | 2775           |                                |                                      | 14894             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 1300              | 0430           | 3497              | 2775           | 0004860                        | 1201                                 | 14896             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 1400              | 0415           | 3497              | 2777           | 0004780                        | 1249                                 | 14907             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
|                             |              | STD              | 1500              | 0403           | 3497              | 2778           | 0004736                        | 1276                                 | 14919             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |
| 119                         |              | OBS              | T1514             | 0402           | 34965             | 2778           |                                |                                      | 14921             |                     |                                 |                      |                                 |                                 |                                   |                      |       |   |                |                           |   |      |



TABLE II.—Continued

[illegible]

| REFERENCE                |          | SHIP      | LATITUDE  | LONGITUDE  | WAVELENGTH |         | STATION TIME (GMT) |  | YEAR |              | ORIGINATOR'S   |                     | DEPTH TO BOTTOM              | MAX. DEPTH OF SAMPLES | WAVE OBSERVATIONS            |                              |                                |    | WEATHER CODE | CLOUD CODES | NOOC STATION NUMBER |  |      |
|--------------------------|----------|-----------|-----------|------------|------------|---------|--------------------|--|------|--------------|----------------|---------------------|------------------------------|-----------------------|------------------------------|------------------------------|--------------------------------|----|--------------|-------------|---------------------|--|------|
| CT#                      | ID. NO.  |           | " 1/10    | " 1/10     | 10'        | 1'      | MO                 | DAY                                    | HR   | 1/10         | CRUISE NO.     | STATION NUMBER      |                              |                       | DIR                          | PER                          | SEA                            |    | TYPE         | AMT         |                     |  |      |
| 3111                     | 171      | CC        | 4400 N    | 04100 W    | 149        | 41      | 05                 | 26                                     | 168  | 1967         | 011            | 004                 | 4572                         | 15                    | 02                           | 2                            | 3                              |    |              | 3           | 7                   |  | 0004 |
|                          |          |           |           | WATER      |            | WIND    |                    | BARO-METER                             |      | AIR TEMP. °C |                | VIL CODE            |                              | NO. OBS. DEPTHS       |                              | SPECIAL OBSERVATIONS         |                                |    |              |             |                     |  |      |
|                          |          |           |           | COLOR CODE |            | DUL     |                    | SPEED OF FORCE                         |      | DRY BULB     |                | WET BULB            |                              |                       |                              |                              |                                |    |              |             |                     |  |      |
|                          |          |           |           | 16         |            | 508     |                    | 159                                    |      | 206          |                | 178                 |                              | 6                     |                              | 14                           |                                |    |              |             |                     |  |      |
| MISSENGER'S TIME HR 1/10 | CARD NO. | CARD TYPE | DEPTH (m) | T °C       | S ‰        | SIGMA-T |                    | SPECIFIC VOLUME ANOMALY-σ <sub>t</sub> |      | Σ Δ σ        | SOUND VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P μg - ml/l | TOTAL-P μg - ml/l     | NO <sub>2</sub> -N μg - ml/l | NO <sub>3</sub> -N μg - ml/l | SiO <sub>4</sub> -Si μg - ml/l | PH |              |             |                     |  |      |
| 168                      | 085      | STO       | 0000      | 21.39      |            |         |                    |  |      |              |                |                     |                              |                       |                              |                              |                                |    |              |             |                     |  |      |
|                          | 085      | STO       | 0010      | 21.34      |            |         |                    |  |      |              |                |                     |                              |                       |                              |                              |                                |    |              |             |                     |  |      |
|                          | 085      | STO       | 0020      | 21.29      |            |         |                    |  |      |              |                |                     |                              |                       |                              |                              |                                |    |              |             |                     |  |      |
| 168                      | 085      | STO       | 0025      | 21.26      |            |         |                    |  |      |              |                |                     |                              |                       |                              |                              |                                |    |              |             |                     |  |      |
|                          | 085      | STO       | 0030      | 20.41      |            |         |                    |  |      |              |                |                     |                              |                       |                              |                              |                                |    |              |             |                     |  |      |
|                          | 085      | STO       | 0050      | 17.67      |            |         |                    |  |      |              |                |                     |                              |                       |                              |                              |                                |    |              |             |                     |  |      |
| 168                      | 085      | STO       | 0050      | 17.67      |            |         |                    |  |      |              |                |                     |                              |                       |                              |                              |                                |    |              |             |                     |  |      |
|                          | 085      | STO       | 0075      | 16.41      |            |         |                    |  |      |              |                |                     |                              |                       |                              |                              |                                |    |              |             |                     |  |      |
|                          | 085      | STO       | 0100      | 15.52      |            |         |                    |  |      |              |                |                     |                              |                       |                              |                              |                                |    |              |             |                     |  |      |
| 168                      | 085      | STO       | 0101      | 15.49      |            |         |                    |  |      |              |                |                     |                              |                       |                              |                              |                                |    |              |             |                     |  |      |
|                          | 085      | STO       | 0125      | 15.18      |            |         |                    |  |      |              |                |                     |                              |                       |                              |                              |                                |    |              |             |                     |  |      |
|                          | 085      | STO       | 0150      | 14.88      |            |         |                    |  |      |              |                |                     |                              |                       |                              |                              |                                |    |              |             |                     |  |      |
| 168                      | 085      | STO       | 0154      | 14.83      |            |         |                    |  |      |              |                |                     |                              |                       |                              |                              |                                |    |              |             |                     |  |      |
|                          | 085      | STO       | 0200      | 14.34      |            |         |                    |  |      |              |                |                     |                              |                       |                              |                              |                                |    |              |             |                     |  |      |
|                          | 085      | STO       | 0208      | 14.26      |            |         |                    |  |      |              |                |                     |                              |                       |                              |                              |                                |    |              |             |                     |  |      |
| 168                      | 085      | STO       | 0250      | 13.88      |            |         |                    |  |      |              |                |                     |                              |                       |                              |                              |                                |    |              |             |                     |  |      |
|                          | 085      | STO       | 0300      | 13.47      |            |         |                    |  |      |              |                |                     |                              |                       |                              |                              |                                |    |              |             |                     |  |      |
|                          | 085      | STO       | 0309      | 13.40      |            |         |                    |  |      |              |                |                     |                              |                       |                              |                              |                                |    |              |             |                     |  |      |
| 168                      | 085      | STO       | 0400      | 12.79      |            |         |                    |  |      |              |                |                     |                              |                       |                              |                              |                                |    |              |             |                     |  |      |
|                          | 085      | STO       | 0410      | 12.69      |            |         |                    |  |      |              |                |                     |                              |                       |                              |                              |                                |    |              |             |                     |  |      |
|                          | 085      | STO       | 0500      | 11.58      |            |         |                    |  |      |              |                |                     |                              |                       |                              |                              |                                |    |              |             |                     |  |      |
| 168                      | 085      | STO       | 0515      | 11.33      |            |         |                    |  |      |              |                |                     |                              |                       |                              |                              |                                |    |              |             |                     |  |      |
|                          | 085      | STO       | 0600      | 09.52      |            |         |                    |  |      |              |                |                     |                              |                       |                              |                              |                                |    |              |             |                     |  |      |
|                          | 085      | STO       | 0618      | 09.18      |            |         |                    |  |      |              |                |                     |                              |                       |                              |                              |                                |    |              |             |                     |  |      |
| 168                      | 085      | STO       | 0700      | 07.84      |            |         |                    |  |      |              |                |                     |                              |                       |                              |                              |                                |    |              |             |                     |  |      |
|                          | 085      | STO       | 0800      | 06.55      |            |         |                    |  |      |              |                |                     |                              |                       |                              |                              |                                |    |              |             |                     |  |      |
|                          | 085      | STO       | 0813      | 06.41      |            |         |                    |  |      |              |                |                     |                              |                       |                              |                              |                                |    |              |             |                     |  |      |
| 168                      | 085      | STO       | 0900      | 05.73      |            |         |                    |  |      |              |                |                     |                              |                       |                              |                              |                                |    |              |             |                     |  |      |
|                          | 085      | STO       | 1000      | 05.11      |            |         |                    |  |      |              |                |                     |                              |                       |                              |                              |                                |    |              |             |                     |  |      |
|                          | 085      | STO       | 1024      | 04.99      |            |         |                    |  |      |              |                |                     |                              |                       |                              |                              |                                |    |              |             |                     |  |      |
| 168                      | 085      | STO       | 1100      | 04.74      |            |         |                    |  |      |              |                |                     |                              |                       |                              |                              |                                |    |              |             |                     |  |      |
|                          | 085      | STO       | 1200      | 04.66      |            |         |                    |  |      |              |                |                     |                              |                       |                              |                              |                                |    |              |             |                     |  |      |
|                          | 085      | STO       | 1281      | 04.27      |            |         |                    |  |      |              |                |                     |                              |                       |                              |                              |                                |    |              |             |                     |  |      |
| 168                      | 085      | STO       | 1300      | 04.23      |            |         |                    |  |      |              |                |                     |                              |                       |                              |                              |                                |    |              |             |                     |  |      |
|                          | 085      | STO       | 1400      | 04.07      |            |         |                    |  |      |              |                |                     |                              |                       |                              |                              |                                |    |              |             |                     |  |      |
|                          | 085      | STO       | 1500      | 03.96      |            |         |                    |  |      |              |                |                     |                              |                       |                              |                              |                                |    |              |             |                     |  |      |
| 168                      | 085      | STO       | 1517      | 03.95      |            |         |                    |  |      |              |                |                     |                              |                       |                              |                              |                                |    |              |             |                     |  |      |



TABLE II.—Continued

| REFERENCE<br>CITY<br>CODE  | ID.<br>NO.  | SHIP<br>CODE  | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MARS DEN<br>SQUARE   | STATION TIME<br>IGMT        | YEAR                                      | ORIGINATOR'S                          |                   | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPL'S  | WAVE<br>OBSERVATIONS |                                 |                                 | WEA-<br>THER<br>CODE              | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |      |
|----------------------------|-------------|---------------|--------------------|---------------------|----------------------|-----------------------------|---|---------------------------------------|-------------------|-----------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|----------------|---------------------------|------|
|                            |             |               |                    |                     |                      |                             |   | CRUISE<br>NO.                         | STATION<br>NUMBER |                       |                                 | DIR.                 | HGT                             | PER                             |                                   |                |                           | SEA  |
|                            |             |               |                    |                     |                      |                             |   |                                       |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |
| 311171                     |             | CC            | 4402 N             | 04103 W             | 149 41               | MO DAY HR 1/10<br>09 27 122 | 1967                                      | 011                                   | 005               | 4572                  | 15                              | 11                   | 1                               | 2                               |                                   | 53             | 4 8                       | 0005 |
|                            |             | WATER         |                    | WIND                |                      | BARO-<br>METER              |   | AIR TEMP. °C                          |                   | VIL<br>CODE           |                                 | NO. OBS.<br>DEPTH'S  |                                 | SPECIAL<br>OBSERVATIONS         |                                   |                |                           |      |
|                            |             | COLOR<br>CODE | TRANS<br>(m)       | DIR.                | SPEED<br>OF<br>FORCE | DRY<br>BULB                 | WET<br>BULB                               | DRY<br>BULB                           | WET<br>BULB       |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |
|                            |             |               |                    | 11                  |                      | 520                         |   | 068                                   |                   | 200                   |                                 | 172                  |                                 | 7                               |                                   | 14             |                           |      |
| MESSAGE<br>TIME<br>HR 1/10 | CARD<br>NO. | CARD<br>TYPE  | DEPTH (m)          | T °C                | S %                  | SIGMA-T                     | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> | Σ Δ D<br>DTM, M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l   | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH             | S<br>CODE                 |      |
|                            |             | STD           | 0000               | 2098                | 3612                 | 2537                        | 0026183                                   | 0000                                  | 15261             |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |
| 122                        |             | OBS           | 0000               | 2098                | 36115                | 2537                        |   |                                       | 15261             |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |
|                            |             | STD           | 0010               | 2078                | 3611                 | 2542                        | 0025742                                   | 0026                                  | 15257             |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |
|                            |             | STD           | 0020               | 2059                | 3611                 | 2547                        | 0025303                                   | 0051                                  | 15253             |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |
| 122                        |             | OBS           | 0025               | 2049                | 36105                | 2549                        |   |                                       | 15252             |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |
|                            |             | STD           | 0030               | 1992                | 3618                 | 2570                        | 0023114                                   | 0076                                  | 15238             |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |
|                            |             | STD           | 0050               | 1813                | 3640                 | 2633                        | 0017241                                   | 0116                                  | 15194             |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |
| 122                        |             | OBS           | 0050               | 1813                | 36396                | 2633                        |   |                                       | 15194             |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |
|                            |             | STD           | 0075               | 1766                | 3637                 | 2643                        | 0016379                                   | 0158                                  | 15184             |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |
|                            |             | STD           | 0100               | 1710                | 3635                 | 2654                        | 0015333                                   | 0198                                  | 15171             |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |
| 122                        |             | OBS           | 0100               | 1710                | 36351                | 2654                        |   |                                       | 15171             |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |
|                            |             | STD           | 0125               | 1628                | 3620                 | 2662                        | 0014657                                   | 0235                                  | 15149             |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |
| 122                        |             | OBS           | 0149               | 1574                | 36110                | 2668                        |   |                                       | 15135             |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |
|                            |             | STD           | 0150               | 1574                | 3611                 | 2668                        | 0014200                                   | 0271                                  | 15135             |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |
|                            |             | STD           | 0200               | 1542                | 3609                 | 2673                        | 0013813                                   | 0341                                  | 15133             |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |
| 122                        |             | OBS           | T0200              | 1542                | 36089                | 2673                        |   |                                       | 15133             |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |
|                            |             | STD           | 0250               | 1445                | 3592                 | 2682                        | 0013133                                   | 0409                                  | 15109             |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |
| 122                        |             | OBS           | 0296               | 1379                | 35819                | 2688                        |   |                                       | 15094             |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |
|                            |             | STD           | 0300               | 1378                | 3582                 | 2688                        | 0012647                                   | 0473                                  | 15094             |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |
| 122                        |             | OBS           | 0394               | 1313                | 35759                | 2697                        |   |                                       | 15087             |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |
|                            |             | STD           | 0400               | 1305                | 3574                 | 2697                        | 0012019                                   | 0596                                  | 15085             |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |
| 122                        |             | OBS           | T0492              | 1166                | 35518                | 2707                        |   |                                       | 15050             |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |
|                            |             | STD           | 0500               | 1151                | 3550                 | 2709                        | 0011067                                   | 0712                                  | 15046             |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |
| 122                        |             | OBS           | 0588               | 0989                | 35301                | 2722                        |   |                                       | 15000             |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |
|                            |             | STD           | 0600               | 0966                | 3529                 | 2726                        | 0009533                                   | 0815                                  | 14994             |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |
|                            |             | STD           | 0700               | 0797                | 3517                 | 2743                        | 0007848                                   | 0902                                  | 14945             |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |
| 122                        |             | OBS           | 0784               | 0684                | 35105                | 2754                        |   |                                       | 14915             |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |
|                            |             | STD           | 0800               | 0667                | 3510                 | 2756                        | 0006569                                   | 0974                                  | 14911             |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |
|                            |             | STD           | 0900               | 0577                | 3506                 | 2765                        | 0005731                                   | 1035                                  | 14891             |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |
| 122                        |             | OBS           | 0980               | 0521                | 35030                | 2770                        |   |                                       | 14881             |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |
|                            |             | STD           | 1000               | 0514                | 3503                 | 2770                        | 0005222                                   | 1090                                  | 14882             |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |
|                            |             | STD           | 1100               | 0480                | 3501                 | 2773                        | 0005031                                   | 1141                                  | 14884             |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |
|                            |             | STD           | 1200               | 0452                | 3500                 | 2775                        | 0004842                                   | 1191                                  | 14889             |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |
| 122                        |             | OBS           | T1232              | 0444                | 34992                | 2775                        |   |                                       | 14891             |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |
|                            |             | STD           | 1300               | 0429                | 3498                 | 2776                        | 0004788                                   | 1239                                  | 14896             |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |
|                            |             | STD           | 1400               | 0412                | 3497                 | 2777                        | 0004734                                   | 1287                                  | 14906             |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |
| 122                        |             | OBS           | T1487              | 0401                | 34961                | 2778                        |   |                                       | 14916             |                       |                                 |                      |                                 |                                 |                                   |                |                           |      |

| REFERENCE<br>CITY<br>CODE  | ID.<br>NO.  | SHIP<br>CODE  | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MARS DEN<br>SQUARE   | STATION TIME<br>IGMT        | YEAR                                      | ORIGINATOR'S                          |                   | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPL'S  | WAVE<br>OBSERVATIONS |                                 |                                 | WEA-<br>THER<br>CODE              | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |     |
|----------------------------|-------------|---------------|--------------------|---------------------|----------------------|-----------------------------|---|---------------------------------------|-------------------|-----------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|----------------|---------------------------|-----|
|                            |             |               |                    |                     |                      |                             |   | CRUISE<br>NO.                         | STATION<br>NUMBER |                       |                                 | DIR.                 | HGT                             | PER                             |                                   |                |                           | SEA |
|                            |             |               |                    |                     |                      |                             |   |                                       |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
| 311171                     |             | CC            | 43500N             | 041000W             | 149 31               | MO DAY HR 1/10<br>09 28 122 | 1967                                      | 011                                   | 006               | 4572                  | 15                              | 35                   | 1                               | 3                               |                                   | 6 6            | 0006                      |     |
|                            |             | WATER         |                    | WIND                |                      | BARO-<br>METER              |   | AIR TEMP. °C                          |                   | VIL<br>CODE           |                                 | NO. OBS.<br>DEPTH'S  |                                 | SPECIAL<br>OBSERVATIONS         |                                   |                |                           |     |
|                            |             | COLOR<br>CODE | TRANS<br>(m)       | DIR.                | SPEED<br>OF<br>FORCE | DRY<br>BULB                 | WET<br>BULB                               | DRY<br>BULB                           | WET<br>BULB       |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
|                            |             |               |                    | 36                  |                      | 509                         |   | 078                                   |                   | 194                   |                                 | 161                  |                                 | 7                               |                                   | 14             |                           |     |
| MESSAGE<br>TIME<br>HR 1/10 | CARD<br>NO. | CARD<br>TYPE  | DEPTH (m)          | T °C                | S %                  | SIGMA-T                     | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> | Σ Δ D<br>DTM, M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l   | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH             | S<br>CODE                 |     |
|                            |             | STD           | 0000               | 2111                | 3608                 | 2531                        | 0026752                                   | 0000                                  | 15264             |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
| 122                        |             | OBS           | 0000               | 2111                | 36083                | 2531                        |   |                                       | 15264             |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
|                            |             | STD           | 0010               | 2112                | 3609                 | 2531                        | 0026760                                   | 0027                                  | 15266             |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
|                            |             | STD           | 0020               | 2113                | 3610                 | 2531                        | 0026747                                   | 0054                                  | 15268             |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
| 122                        |             | OBS           | 0025               | 2113                | 36104                | 2532                        |   |                                       | 15269             |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
|                            |             | STD           | 0030               | 2027                | 3610                 | 2555                        | 0024578                                   | 0079                                  | 15246             |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
|                            |             | STD           | 0050               | 1754                | 3610                 | 2624                        | 0018018                                   | 0122                                  | 15173             |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
| 122                        |             | OBS           | 0050               | 1754                | 36098                | 2624                        |   |                                       | 15173             |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
|                            |             | STD           | 0075               | 1643                | 3609                 | 2650                        | 0015629                                   | 0164                                  | 15144             |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
|                            |             | STD           | 0100               | 1562                | 3606                 | 2667                        | 0014115                                   | 0201                                  | 15123             |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
| 122                        |             | OBS           | 0100               | 1562                | 36064                | 2667                        |   |                                       | 15123             |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
|                            |             | STD           | 0125               | 1527                | 3603                 | 2672                        | 0013687                                   | 0236                                  | 15116             |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
|                            |             | STD           | 0150               | 1493                | 3599                 | 2677                        | 0013331                                   | 0270                                  | 15108             |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
| 122                        |             | OBS           | 0153               | 1489                | 35983                | 2677                        |   |                                       | 15108             |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
|                            |             | STD           | 0200               | 1430                | 3589                 | 2683                        | 0012892                                   | 0335                                  | 15095             |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
|                            |             | STD           | T0209              | 1420                | 35873                | 2684                        |   |                                       | 15093             |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
|                            |             | STD           | 0250               | 1382                | 3584                 | 2689                        | 0012418                                   | 0398                                  | 15087             |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
|                            |             | STD           | 0300               | 1340                | 3579                 | 2694                        | 0012077                                   | 0460                                  | 15081             |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
| 122                        |             | OBS           | 0306               | 1335                | 35789                | 2695                        |   |                                       | 15080             |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
|                            |             | STD           | 0400               | 1270                | 3570                 | 2701                        | 0011622                                   | 0578                                  | 15073             |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
| 122                        |             | OBS           | 0407               | 1262                | 35687                | 2702                        |   |                                       | 15071             |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
|                            |             | STD           | 0500               | 1109                | 3542                 | 2710                        | 0010879                                   | 0691                                  | 15030             |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
| 122                        |             | OBS           | 0510               | 1091                | 35400                | 2712                        |   |                                       | 15025             |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
|                            |             | STD           | 0600               | 0917                | 3521                 | 2727                        | 0009296                                   | 0791                                  | 14775             |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
|                            |             | STD           | 0612               | 0896                | 35187                | 2729                        |   |                                       | 14969             |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
|                            |             | STD           | 0700               | 0775                | 3515                 | 2745                        | 0007654                                   | 0876                                  | 14937             |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
|                            |             | STD           | 0800               | 0660                | 3510                 | 2757                        | 0006408                                   | 0947                                  | 14908             |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
| 122                        |             | OBS           | T0812              | 0648                | 35093                | 2758                        |   |                                       | 14905             |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
|                            |             | STD           | 0900               | 0572                | 3504                 | 2764                        | 0005810                                   | 1008                                  | 14889             |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
|                            |             | STD           | 1000               | 0505                | 3499                 | 2768                        | 0005396                                   | 1064                                  | 14877             |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
| 122                        |             | OBS           | 1020               | 0494                | 34985                | 2769                        |   |                                       | 14876             |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
|                            |             | STD           | 1100               | 0472                | 3498                 | 2772                        | 0005117                                   | 1117                                  | 14880             |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
|                            |             | STD           | 1200               | 0449                | 3498                 | 2774                        | 0004935                                   | 1167                                  | 14888             |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
| 122                        |             | OBS           | T1282              | 0432                | 34981                | 2776                        |   |                                       | 14894             |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
|                            |             | STD           | 1300               | 0429                | 3498                 | 2776                        | 0004788                                   | 1216                                  | 14896             |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
|                            |             | STD           | 1400               | 0412                | 3497                 | 2777                        | 0004734                                   | 1263                                  | 14906             |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
|                            |             | STD           | 1500               | 0400                | 3496                 | 2778                        | 0004740                                   | 1311                                  | 14917             |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |
| 122                        |             | OBS           | T1527              | 0397                | 34955                | 2778                        |   |                                       | 14921             |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |



TABLE II.—Continued

| REFERENCE<br>CITY<br>CODE  | SHIP<br>ID.<br>NO. | SHIP<br>CODE  | LATITUDE<br>°   | LONGITUDE<br>° | WAVE<br>NO.          | MARSSEN<br>SQUARE |   | STATION TIME<br>(GMT)                 |                   | YEAR                | ORIGINATOR'S                    |                      | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLES  | WAVE<br>OBSERVATIONS              |     |         | WEA-<br>THER<br>CODE | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |     |
|----------------------------|--------------------|---------------|-----------------|----------------|----------------------|-------------------|---|---------------------------------------|-------------------|---------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|-----|---------|----------------------|----------------|---------------------------|-----|
|                            |                    |               |                 |                |                      | 10'               | 1'  | MO                                    | DAY               |                     | CRUISE<br>NO.                   | STATION<br>NUMBER    |                                 |                                 | DR                                | HGT | PER     |                      |                |                           | SEA |
|                            |                    |               |                 |                |                      | 10'               | 1'  | MO                                    | DAY               |                     | CRUISE<br>NO.                   | STATION<br>NUMBER    |                                 |                                 | DR                                | HGT | PER     |                      |                |                           | SEA |
| 311171                     | CC                 |               | 43560N          | 041030W        |                      | 149               | 31  | 09                                    | 30                | 124                 | 1967                            | 011 007              | 4572                            | 15                              | 09                                | 1   | 2       |                      | 1 3            | 0007                      |     |
|                            |                    |               |                 |                |                      |                   |   |                                       |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            |                    | WATER         |                 | WIND           |                      | BARO-<br>METER    |   | AIR TEMP. °C                          |                   | VIS                 |                                 | NO. OF<br>DEPTHS     |                                 | SPECIAL<br>OBSERVATIONS         |                                   |     |         |                      |                |                           |     |
|                            |                    | COLOR<br>CODE | TRANSP.<br>UNIT | DIR.           | SPEED<br>OF<br>FORCE | DRY<br>BULB       | WET<br>BULB                               | DRY<br>BULB                           | WET<br>BULB       | CODE                | CODE                            |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            |                    | 17            | 503             | 163            | 217                  | 200               | 7   | 14                                    |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| MESSAGE<br>TIME<br>NR 1/10 | CARD<br>NO.        | CARD<br>TYPE  | DEPTH (m)       | T °C           | S ‰                  | SIGMA-T           | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> | Σ Δ D<br>DTN, M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - μl/l | TOTAL-P<br>μg - μl/l | NO <sub>3</sub> -N<br>μg - μl/l | NO <sub>2</sub> -N<br>μg - μl/l | SiO <sub>4</sub> -Si<br>μg - μl/l | pH  | S<br>OC |                      |                |                           |     |
| 124                        | STD                | 0000          | 2103            | 3613           | 2536                 | 0026211           | 0000                                      | 15262                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | OBS                | 0000          | 2103            | 36129          | 2536                 |                   |   | 15262                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD                | 0010          | 2100            | 3612           | 2536                 | 0026241           | 0026                                      | 15263                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 124                        | STD                | 0020          | 2097            | 3611           | 2536                 | 0026271           | 0052                                      | 15264                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | OBS                | 0025          | 2096            | 36107          | 2537                 |                   |   | 15264                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD                | 0030          | 2015            | 3619           | 2565                 | 0023622           | 0077                                      | 15244                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 124                        | STD                | 0050          | 1757            | 3639           | 2646                 | 0016003           | 0117                                      | 15177                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | OBS                | 0050          | 1757            | 36385          | 2646                 |                   |   | 15177                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD                | 0075          | 1655            | 3618           | 2654                 | 0015244           | 0156                                      | 15149                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 124                        | STD                | 0100          | 1580            | 3605           | 2662                 | 0014609           | 0193                                      | 15128                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | OBS                | 0100          | 1580            | 36050          | 2662                 |                   |   | 15128                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD                | 0125          | 1553            | 3603           | 2666                 | 0014246           | 0229                                      | 15124                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 124                        | STD                | 0150          | 1519            | 3600           | 2672                 | 0013611           | 0265                                      | 15117                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | OBS                | 0154          | 1513            | 35989          | 2672                 |                   |   | 15115                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD                | 0200          | 1424            | 3586           | 2682                 | 0012987           | 0332                                      | 15093                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 124                        | OBS                | T0208         | 1412            | 35842          | 2683                 |                   |   | 15090                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD                | 0250          | 1379            | 3580           | 2687                 | 0012649           | 0396                                      | 15086                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD                | 0300          | 1338            | 3575           | 2691                 | 0012329           | 0458                                      | 15080                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 124                        | OBS                | 0306          | 1333            | 35745          | 2692                 |                   |   | 15079                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD                | 0400          | 1257            | 3569           | 2703                 | 0011442           | 0577                                      | 15068                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 124                        | OBS                | 0405          | 1250            | 35680          | 2704                 |                   |   | 15067                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD                | 0500          | 1065            | 3535           | 2713                 | 0010599           | 0687                                      | 15014                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 124                        | OBS                | 0507          | 1052            | 35331          | 2714                 |                   |   | 15010                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD                | 0600          | 0887            | 3518           | 2730                 | 0009023           | 0785                                      | 14963                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 124                        | OBS                | 0608          | 0874            | 35165          | 2731                 |                   |   | 14959                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD                | 0700          | 0750            | 3512           | 2746                 | 0007515           | 0868                                      | 14927                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 124                        | STD                | 0800          | 0639            | 3506           | 2757                 | 0006432           | 0938                                      | 14899                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | OBS                | T0808         | 0631            | 35060          | 2758                 |                   |   | 14897                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 124                        | STD                | 0900          | 0556            | 3502           | 2764                 | 0005738           | 0999                                      | 14882                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD                | 1000          | 0494            | 3498           | 2768                 | 0005354           | 1054                                      | 14873                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 124                        | OBS                | 1013          | 0487            | 34970          | 2769                 |                   |   | 14872                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD                | 1100          | 0465            | 3497           | 2771                 | 0005143           | 1106                                      | 14877                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 124                        | STD                | 1200          | 0442            | 3497           | 2773                 | 0004969           | 1157                                      | 14885                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | OBS                | T1274         | 0428            |                |                      |                   |   |                                       |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 124                        | STD                | 1300          | 0423            | 3496           | 2775                 | 0004842           | 1206                                      | 14893                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD                | 1400          | 0408            | 3496           | 2777                 | 0004762           | 1254                                      | 14904                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 124                        | STD                | 1500          | 0397            | 3496           | 2778                 | 0004723           | 1302                                      | 14916                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | OBS                | T1521         | 0395            | 34956          | 2778                 |                   |   | 14919                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |

| REFERENCE<br>CITY<br>CODE  | SHIP<br>ID.<br>NO. | SHIP<br>CODE  | LATITUDE<br>°   | LONGITUDE<br>° | WAVE<br>NO.          | MARSSEN<br>SQUARE |   | STATION TIME<br>(GMT)                 |                   | YEAR                | ORIGINATOR'S                    |                      | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLES  | WAVE<br>OBSERVATIONS              |     |         | WEA-<br>THER<br>CODE | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |     |
|----------------------------|--------------------|---------------|-----------------|----------------|----------------------|-------------------|---|---------------------------------------|-------------------|---------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|-----|---------|----------------------|----------------|---------------------------|-----|
|                            |                    |               |                 |                |                      | 10'               | 1'  | MO                                    | DAY               |                     | CRUISE<br>NO.                   | STATION<br>NUMBER    |                                 |                                 | DR                                | HGT | PER     |                      |                |                           | SEA |
|                            |                    |               |                 |                |                      | 10'               | 1'  | MO                                    | DAY               |                     | CRUISE<br>NO.                   | STATION<br>NUMBER    |                                 |                                 | DR                                | HGT | PER     |                      |                |                           | SEA |
| 311171                     | CC                 |               | 4400 N          | 04100 W        |                      | 149               | 41  | 10                                    | 01                | 124                 | 1967                            | 011 008              | 4572                            | 15                              | 06                                | 2   | 3       |                      | 3 2            | 0008                      |     |
|                            |                    |               |                 |                |                      |                   |   |                                       |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            |                    | WATER         |                 | WIND           |                      | BARO-<br>METER    |   | AIR TEMP. °C                          |                   | VIS                 |                                 | NO. OF<br>DEPTHS     |                                 | SPECIAL<br>OBSERVATIONS         |                                   |     |         |                      |                |                           |     |
|                            |                    | COLOR<br>CODE | TRANSP.<br>UNIT | DIR.           | SPEED<br>OF<br>FORCE | DRY<br>BULB       | WET<br>BULB                               | DRY<br>BULB                           | WET<br>BULB       | CODE                | CODE                            |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            |                    | 13            | 504             | 204            | 217                  | 189               | 7   | 14                                    |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| MESSAGE<br>TIME<br>NR 1/10 | CARD<br>NO.        | CARD<br>TYPE  | DEPTH (m)       | T °C           | S ‰                  | SIGMA-T           | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> | Σ Δ D<br>DTN, M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - μl/l | TOTAL-P<br>μg - μl/l | NO <sub>3</sub> -N<br>μg - μl/l | NO <sub>2</sub> -N<br>μg - μl/l | SiO <sub>4</sub> -Si<br>μg - μl/l | pH  | S<br>OC |                      |                |                           |     |
| 124                        | STD                | 0000          | 1963            | 3452           | 2451                 | 0034305           | 0000                                      | 15205                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | OBS                | 0000          | 1963            | 34521          | 2451                 |                   |   | 15205                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD                | 0010          | 2013            | 3490           | 2467                 | 0032830           | 0034                                      | 15225                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 124                        | STD                | 0020          | 2062            | 3524           | 2480                 | 0031664           | 0066                                      | 15244                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | OBS                | 0024          | 2082            | 35360          | 2484                 |                   |   | 15252                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD                | 0030          | 1990            | 3554           | 2522                 | 0027698           | 0095                                      | 15230                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 124                        | OBS                | 0048          | 1771            | 35954          | 2605                 |                   |   | 15176                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD                | 0050          | 1763            | 3596           | 2612                 | 0019230           | 0142                                      | 15174                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD                | 0075          | 1673            | 3604           | 2639                 | 0016667           | 0187                                      | 15152                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 124                        | OBS                | 0097          | 1609            | 36064          | 2656                 |                   |   | 15137                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD                | 0100          | 1602            | 3606           | 2658                 | 0015019           | 0227                                      | 15135                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD                | 0125          | 1551            | 3600           | 2665                 | 0014422           | 0264                                      | 15123                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 124                        | OBS                | 0145          | 1517            | 35958          | 2669                 |                   |   | 15115                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD                | 0150          | 1513            | 3595           | 2669                 | 0014026           | 0299                                      | 15114                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 124                        | OBS                | T0197         | 1459            | 35907          | 2678                 |                   |   | 15104                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD                | 0200          | 1450            | 3589           | 2678                 | 0013307           | 0368                                      | 15102                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD                | 0250          | 1324            | 3562           | 2684                 | 0012861           | 0433                                      | 15065                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 124                        | OBS                | 0291          | 1253            | 35485          | 2688                 |                   |   | 15047                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD                | 0300          | 1248            | 3551           | 2691                 | 0012323           | 0496                                      | 15047                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 124                        | OBS                | 0389          | 1201            | 35534          | 2702                 |                   |   | 15046                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD                | 0400          | 1187            | 3552           | 2704                 | 0011346           | 0614                                      | 15042                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 124                        | OBS                | 0486          | 1015            | 35287          | 2717                 |                   |   | 14993                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD                | 0500          | 0957            | 3519           | 2719                 | 0009904           | 0721                                      | 14973                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 124                        | OBS                | 0583          | 0693            | 34807          | 2730                 |                   |   | 14881                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD                | 0600          | 0690            | 3484           | 2733                 | 0008510           | 0813                                      | 14883                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 124                        | STD                | 0700          | 0664            | 3501           | 2750                 | 0007038           | 0890                                      | 14892                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | OBS                | T0778         | 0628            | 35074          | 2760                 |                   |   | 14891                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 124                        | STD                | 0800          | 0606            | 3506           | 2761                 | 0005998           | 0956                                      | 14886                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD                | 0900          | 0525            | 3501           | 2767                 | 0005396           | 1013                                      | 14869                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 124                        | OBS                | 0978          | 0479            | 34980          | 2771                 |                   |   | 14863                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD                | 1000          | 0476            | 3498           | 2771                 | 0005082           | 1065                                      | 14865                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD                | 1100          | 0460            | 3498           | 2773                 | 0004967           | 1115                                      | 14875                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 124                        | STD                | 1200          | 0445            | 3499           | 2775                 | 0004853           | 1164                                      | 14886                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | OBS                | T1227         | 0441            | 34987          | 2775                 |                   |   | 14889                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 124                        | STD                | 1300          | 0430            | 3498           | 2776                 | 0004801           | 1213                                      | 14896                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD                | 1400          | 0416            | 3498           | 2777                 | 0004713           | 1260                                      | 14907                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 124                        | OBS                | T1477         | 0405            | 34968          | 2778                 |                   |   | 14916                                 |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |



TABLE II.—Continued

| REFERENCE<br>CITY<br>ID.<br>NO.   | SHIP<br>CODE | LATITUDE<br>" 1/10 | LONGITUDE<br>" 1/10             | E<br>W         | MARS DEN<br>SQUARE |             | STATION TIME<br>(GMT)                        |                                       |                         | YEAR                | ORIGINATOR'S                    |                      | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLES  | WAVE<br>OBSERVATIONS              |     |            | WEA-<br>THER<br>CODE | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
|---|--------------|--------------------|---------------------------------|----------------|--------------------|-------------|--|---------------------------------------|-------------------------|---------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|-----|------------|----------------------|----------------|---------------------------|------|-------|--|------|--|----------------|--------------|--|--------------|-----------------------|-------------------------|---------------|--------------|------|---------------------------------|-------------|-------------|--|----|-----|-----|-----|-----|---|----|--|--|
|   |              |                    |                                 |                | 10"                | 1"          | MO   | DAY                                   | HR. 1/10                |                     | CRUISE<br>NO.                   | STATION<br>NUMBER    |                                 |                                 | DIR.                              | HGT | PER        |                      |                |                           | SEA  |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
| 311171  | CC           | 43570N             | 040590W                         |                | 149                | 30          | 10   | 02                                    | 135                     | 1967                | 011                             | 009                  | 4572                            | 15                              | 13                                | 3   | 3          |                      | 3              | 2                         | 0009 |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
| <table><tr><th colspan="2">WATER</th><th colspan="2">WIND</th><th rowspan="2">BARO-<br/>METER</th><th colspan="2">AIR TEMP. °C</th><th rowspan="2">VIS.<br/>CODE</th><th rowspan="2">NO.<br/>OBS.<br/>DEPTHS</th><th rowspan="2">SPECIAL<br/>OBSERVATIONS</th></tr><tr><th>COLOR<br/>CODE</th><th>TRAN-<br/>SMI</th><th>DIR.</th><th>SPEED<br/>OF<br/>FORCE<br/>(KNOTS)</th><th>DRY<br/>BULL</th><th>WET<br/>BULL</th></tr><tr><td></td><td>20</td><td>504</td><td>207</td><td>200</td><td>172</td><td>7</td><td>14</td><td></td><td></td></tr></table> |              |                    |                                 |                |                    |             |  |                                       |                         |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      | WATER |  | WIND |  | BARO-<br>METER | AIR TEMP. °C |  | VIS.<br>CODE | NO.<br>OBS.<br>DEPTHS | SPECIAL<br>OBSERVATIONS | COLOR<br>CODE | TRAN-<br>SMI | DIR. | SPEED<br>OF<br>FORCE<br>(KNOTS) | DRY<br>BULL | WET<br>BULL |  | 20 | 504 | 207 | 200 | 172 | 7 | 14 |  |  |
| WATER   |              | WIND               |                                 | BARO-<br>METER | AIR TEMP. °C       |             | VIS.<br>CODE                                 | NO.<br>OBS.<br>DEPTHS                 | SPECIAL<br>OBSERVATIONS |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
| COLOR<br>CODE   | TRAN-<br>SMI | DIR.               | SPEED<br>OF<br>FORCE<br>(KNOTS) |                | DRY<br>BULL        | WET<br>BULL |  |                                       |                         |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
|   | 20           | 504                | 207                             | 200            | 172                | 7           | 14   |                                       |                         |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
| MESSAGE<br>TIME<br>HR. 1/10   | CARD<br>NO.  | CARD<br>TYPE       | DEPTH (m)                       | T °C           | S ‰                | SIGMA-T     | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> 07 | Σ Δ D<br>DYN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY       | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l | NO <sub>2</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH  | ST<br>CODE |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
| 135   | STO          | 0000               | 1894                            |                |                    |             |  |                                       |                         |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
|   | OBS          | 0000               | 1894                            |                | 34100              | 24370       |  |                                       |                         |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
|   | STO          | 0010               | 1980                            |                |                    |             |  |                                       |                         |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
|   | STO          | 0020               | 2066                            |                |                    |             |  |                                       |                         |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
| 135   | OBS          | 0024               | 2100                            | 35405          | 2482               |             |  |                                       | 15257                   |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
|   | STO          | 0030               | 1991                            | 3560           | 2526               | 0027288     |  |                                       | 15231                   |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
|   | OBS          | 0048               | 1736                            | 36046          | 2625               |             |  |                                       | 15167                   |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
|   | STO          | 0050               | 1729                            | 3605           | 2627               | 0017789     |  |                                       | 15165                   |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
| 135   | STO          | 0075               | 1654                            | 3608           | 2647               | 0015948     |  |                                       | 15147                   |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
|   | OBS          | 0097               | 1604                            | 36081          | 2659               |             |  |                                       | 15135                   |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
|   | STO          | 0100               | 1600                            | 3607           | 2659               | 0014902     |  |                                       | 15135                   |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
|   | STO          | 0125               | 1570                            | 3601           | 2661               | 0014761     |  |                                       | 15129                   |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
| 135   | OBS          | 0146               | 1545                            | 35981          | 2664               |             |  |                                       | 15124                   |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
|   | STO          | 0150               | 1541                            | 3598           | 2665               | 0014422     |  |                                       | 15123                   |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
|   | STO          | 0200               | 1482                            | 3598           | 2679               | 0013301     |  |                                       | 15113                   |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
|   | OBS          | 0200               | 1482                            | 35983          | 2679               |             |  |                                       | 15113                   |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
| 135   | STO          | 0250               | 1395                            | 3579           | 2683               | 0013048     |  |                                       | 15091                   |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
|   | OBS          | 0294               | 1324                            | 35658          | 2687               |             |  |                                       | 15073                   |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
|   | STO          | 0300               | 1318                            | 3565           | 2688               | 0012661     |  |                                       | 15072                   |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
|   | OBS          | 0392               | 1185                            | 35462          | 2699               |             |  |                                       | 15040                   |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
| 135   | STO          | 0400               | 1169                            | 3545           | 2702               | 0011522     |  |                                       | 15035                   |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
|   | OBS          | 0491               | 0965                            | 35254          | 2723               |             |  |                                       | 14975                   |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
|   | STO          | 0500               | 0936                            | 3522           | 2725               | 0009334     |  |                                       | 14965                   |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
|   | OBS          | 0589               | 0711                            | 34944          | 2738               |             |  |                                       | 14891                   |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
| 135   | STO          | 0600               | 0704                            | 3495           | 2739               | 0007900     |  |                                       | 14890                   |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
|   | STO          | 0700               | 0642                            | 3502           | 2753               | 0006653     |  |                                       | 14883                   |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
|   | OBS          | 0777               | 0598                            | 35044          | 2761               |             |  |                                       | 14879                   |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
|   | STO          | 0800               | 0584                            | 3504           | 2763               | 0005842     |  |                                       | 14877                   |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
| 135   | STO          | 0900               | 0529                            | 3502           | 2768               | 0005375     |  |                                       | 14871                   |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
|   | OBS          | 0984               | 0492                            | 34998          | 2770               |             |  |                                       | 14869                   |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
|   | STO          | 1000               | 0486                            | 3499           | 2770               | 0005146     |  |                                       | 14870                   |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
|   | STO          | 1100               | 0456                            | 3498           | 2773               | 0004938     |  |                                       | 14874                   |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
| 135   | STO          | 1200               | 0438                            | 3496           | 2774               | 0004953     |  |                                       | 14883                   |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
|   | OBS          | 1228               | 0435                            | 34960          | 2774               |             |  |                                       | 14886                   |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |
| 135   | OBS          | 14780              | 0388                            | 34935          | 27770              |             |  |                                       |                         |                     |                                 |                      |                                 |                                 |                                   |     |            |                      |                |                           |      |       |  |      |  |                |              |  |              |                       |                         |               |              |      |                                 |             |             |  |    |     |     |     |     |   |    |  |  |

| REFERENCE<br>CITY<br>ID.<br>NO.  | SHIP<br>CODE | LATITUDE<br>" 1/10 | LONGITUDE<br>" 1/10             | MARS<br>DEN<br>SQUARE         | STATION TIME<br>(GMT) |             |  | YEAR                                  | ORIGINATOR'S            |                     | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLES | WAVE<br>OBSERVATIONS            |                                 |                                   |     | WEA-<br>THER<br>CODE | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
|--|--------------|--------------------|---------------------------------|-------------------------------|-----------------------|-------------|--|---------------------------------------|-------------------------|---------------------|---------------------------------|--------------------------------|---------------------------------|---------------------------------|-----------------------------------|-----|----------------------|----------------|---------------------------|-------|-----|------|--|-------------------------------|--------------|--|--------------|-----------------------|-------------------------|---------------|--------------|------|---------------------------------|-------------|-------------|----|-----|-----|-----|-----|---|----|--|--|--|
|  |              |                    |                                 |                               | 10"                   | 1"          | MO DAY HR. 1/10                              |                                       | CRUISE<br>NO.           | STATION<br>NUMBER   |                                 |                                | DIR.                            | HGT                             | PER                               | SEA |                      |                |                           | TYPE  | AMT |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
| 311171   | CC           | 4400 N             | 04100 W                         | 149 41 10                     | 03                    | 125         | 1967   | 011                                   | 010                     | 4572                | 12                              | 14                             | 1                               | 2                               |                                   |     | 6                    | 8              | 0010                      |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
| <table><tr><th colspan="2">WATER</th><th colspan="2">WIND</th><th rowspan="2">BARO-<br/>METER<br/>DRY<br/>BULL</th><th colspan="2">AIR TEMP. °C</th><th rowspan="2">VIS.<br/>CODE</th><th rowspan="2">NO.<br/>OBS.<br/>DEPTHS</th><th rowspan="2">SPECIAL<br/>OBSERVATIONS</th></tr><tr><th>COLOR<br/>CODE</th><th>TRAN-<br/>SMI</th><th>DIR.</th><th>SPEED<br/>OF<br/>FORCE<br/>(KNOTS)</th><th>DRY<br/>BULL</th><th>WET<br/>BULL</th></tr><tr><td>15</td><td>510</td><td>119</td><td>206</td><td>194</td><td>7</td><td>13</td><td></td><td></td><td></td></tr></table> |              |                    |                                 |                               |                       |             |  |                                       |                         |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           | WATER |     | WIND |  | BARO-<br>METER<br>DRY<br>BULL | AIR TEMP. °C |  | VIS.<br>CODE | NO.<br>OBS.<br>DEPTHS | SPECIAL<br>OBSERVATIONS | COLOR<br>CODE | TRAN-<br>SMI | DIR. | SPEED<br>OF<br>FORCE<br>(KNOTS) | DRY<br>BULL | WET<br>BULL | 15 | 510 | 119 | 206 | 194 | 7 | 13 |  |  |  |
| WATER  |              | WIND               |                                 | BARO-<br>METER<br>DRY<br>BULL | AIR TEMP. °C          |             | VIS.<br>CODE                                 | NO.<br>OBS.<br>DEPTHS                 | SPECIAL<br>OBSERVATIONS |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
| COLOR<br>CODE  | TRAN-<br>SMI | DIR.               | SPEED<br>OF<br>FORCE<br>(KNOTS) |                               | DRY<br>BULL           | WET<br>BULL |  |                                       |                         |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
| 15   | 510          | 119                | 206                             | 194                           | 7                     | 13          |  |                                       |                         |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
| MESSAGE<br>TIME<br>HR. 1/10  | CARD<br>NO.  | CARD<br>TYPE       | DEPTH (m)                       | T °C                          | S ‰                   | SIGMA-T     | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> 07 | Σ Δ D<br>DYN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY       | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l           | NO <sub>2</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH  | ST<br>CODE           |                |                           |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
| 125  | STO          | 0000               | 1964                            | 3435                          | 2438                  | 0035542     |  | 0000                                  | 15204                   |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
|  | OBS          | 0000               | 1964                            | 34354                         | 2438                  |             |  |                                       | 15204                   |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
|  | STO          | 0010               | 2027                            | 3508                          | 2477                  | 0031897     |  | 0034                                  | 15231                   |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
|  | STO          | 0020               | 2091                            | 3561                          | 2500                  | 0029720     |  | 0065                                  | 15256                   |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
| 125  | OBS          | 0024               | 2116                            | 35775                         | 2506                  |             |  |                                       | 15265                   |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
|  | STO          | 0030               | 2025                            | 3588                          | 2538                  | 0026120     |  | 0092                                  | 15243                   |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
|  | OBS          | 0048               | 1808                            | 36126                         | 2613                  |             |  |                                       | 15189                   |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
|  | STO          | 0050               | 1799                            | 3613                          | 2616                  | 0018840     |  | 0137                                  | 15186                   |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
| 125  | STO          | 0075               | 1701                            | 3615                          | 2641                  | 0016503     |  | 0182                                  | 15162                   |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
|  | OBS          | 0096               | 1639                            | 36177                         | 2658                  |             |  |                                       | 15147                   |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
|  | STO          | 0100               | 1633                            | 3618                          | 2660                  | 0014833     |  | 0221                                  | 15146                   |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
|  | STO          | 0125               | 1597                            | 3623                          | 2672                  | 0013752     |  | 0250                                  | 15140                   |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
| 125  | OBS          | 0145               | 1567                            | 36251                         | 2680                  |             |  |                                       | 15134                   |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
|  | STO          | 0150               | 1560                            | 3625                          | 2682                  | 0012854     |  | 0290                                  | 15133                   |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
|  | STO          | 0200               | 1485                            | 3627                          | 2700                  | 0011253     |  | 0350                                  | 15118                   |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
|  | OBS          | 0203               | 1480                            | 36274                         | 2702                  |             |  |                                       | 15116                   |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
| 125  | STO          | 0250               | 1409                            | 3610                          | 2704                  | 0011075     |  | 0406                                  | 15099                   |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
|  | OBS          | 0290               | 1347                            | 35946                         | 2705                  |             |  |                                       | 15084                   |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
|  | STO          | 0300               | 1340                            | 3591                          | 2703                  | 0011202     |  | 0462                                  | 15083                   |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
|  | OBS          | 0384               |                                 | 35599                         |                       |             |  |                                       |                         |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
| 125  | STO          | 0400               | 1209                            | 3554                          | 2701                  | 0011615     |  | 0576                                  | 15050                   |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
|  | OBS          | 0479               | 1024                            | 35207                         | 2709                  |             |  |                                       | 14994                   |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
|  | STO          | 0500               | 0938                            | 3506                          | 2712                  | 0010542     |  | 0686                                  | 14964                   |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
|  | OBS          | 0575               | 0703                            | 34715                         | 2721                  |             |  |                                       | 14883                   |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
| 125  | STO          | 0600               | 0692                            | 3478                          | 2728                  | 0008981     |  | 0784                                  | 14883                   |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
|  | STO          | 0700               | 0646                            | 3497                          | 2749                  | 0007078     |  | 0864                                  | 14884                   |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
|  | OBS          | 0762               | 0617                            | 35042                         | 2758                  |             |  |                                       | 14884                   |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
|  | STO          | 0800               | 0596                            | 3503                          | 2760                  | 0006080     |  | 0930                                  | 14882                   |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
| 125  | STO          | 0900               | 0546                            | 3501                          | 2765                  | 0005677     |  | 0983                                  | 14878                   |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
|  | OBS          | 0956               | 0521                            | 34994                         | 2767                  |             |  |                                       | 14877                   |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
|  | STO          | 1000               | 0502                            | 3498                          | 2768                  | 0005430     |  | 1044                                  | 14876                   |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
|  | STO          | 1100               | 0465                            | 3496                          | 2771                  | 0005202     |  | 1098                                  | 14877                   |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
| 125  | STO          | 1200               | 0433                            | 3493                          | 2771                  | 0005131     |  | 1149                                  | 14880                   |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |
|  | OBS          | 1200               | 0433                            | 34927                         | 2771                  |             |  |                                       | 14880                   |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                               |              |  |              |                       |                         |               |              |      |                                 |             |             |    |     |     |     |     |   |    |  |  |  |



TABLE II.—Continued

| REFERENCE                  |             | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MARS DEN<br>SQUARE | STATION TIME<br>(GMT) |                   | YEAR          | ORIGINATOR'S |                      | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPLE | WAVE<br>OBSERVATIONS |     |                   | CLOUD<br>CODES          | WDC<br>STATION<br>NUMBER |
|----------------------------|-------------|--------------|--------------------|---------------------|--------------------|-----------------------|-------------------|---------------|--------------|----------------------|-----------------------|-------------------------------|----------------------|-----|-------------------|-------------------------|--------------------------|
| CTRY<br>CODE               | ID. NO.     |              |                    |                     |                    | CRUISE<br>NO.         | STATION<br>NUMBER |               | 10°          | 1°                   |                       |                               | DIR.                 | HGT | PER               |                         |                          |
| 311171                     | CC          |              | 4400 N             | 04100 W             | 149 41             | 10 06                 | 127 1967          | 011 011       |              | 4572                 | 16                    | 26                            | 1                    | 3   |                   | 4 8                     | 0011                     |
| MESSAGE<br>TIME<br>HR 1/10 | CASE<br>NO. | CARD<br>TYPE | DEPTH (m)          | T °C                | S ‰                | SIGMA-T               | WATER             |               | WIND         |                      | BARO-<br>METER        |                               | AIR TEMP. °C         |     | NO. OBS.<br>DEPTH | SPECIAL<br>OBSERVATIONS |                          |
|                            |             |              |                    |                     |                    |                       | COLOR<br>CODE     | TRANSL<br>(m) | DIR.         | SPEED<br>OF<br>FORCE | DRY<br>BULB           | WET<br>BULB                   | VIS<br>CODE          |     |                   |                         |                          |
|                            |             |              |                    |                     |                    |                       |                   |               |              | 27                   | 530                   | 071                           | 183                  | 172 | 7                 | 14                      |                          |
| 127                        |             | STD          | 0000               | 1967                | 3507               | 2492                  |                   |               |              | 0030438              | 0000                  | 15213                         |                      |     |                   |                         |                          |
|                            |             | OBS          | 0000               | 1967                | 35068              | 2492                  |                   |               |              |                      |                       | 15213                         |                      |     |                   |                         |                          |
|                            |             | STD          | 0010               | 1967                | 3510               | 2494                  |                   |               |              | 0030241              | 0030                  | 15215                         |                      |     |                   |                         |                          |
| 127                        |             | STD          | 0020               | 1967                | 3513               | 2497                  |                   |               |              | 0030059              | 0060                  | 15217                         |                      |     |                   |                         |                          |
|                            |             | OBS          | 0026               | 1967                | 35150              | 2498                  |                   |               |              |                      |                       | 15218                         |                      |     |                   |                         |                          |
|                            |             | STD          | 0030               | 1910                | 3516               | 2513                  |                   |               |              | 0028488              | 0090                  | 15203                         |                      |     |                   |                         |                          |
| 127                        |             | STD          | 0050               | 1638                | 3520               | 2583                  |                   |               |              | 0021946              | 0140                  | 15127                         |                      |     |                   |                         |                          |
|                            |             | OBS          | 0051               | 1625                | 35198              | 2586                  |                   |               |              |                      |                       | 15124                         |                      |     |                   |                         |                          |
|                            |             | STD          | 0075               | 1273                | 3501               | 2647                  |                   |               |              | 0015866              | 0187                  | 15012                         |                      |     |                   |                         |                          |
| 127                        |             | STD          | 0100               | 1046                | 3492               | 2683                  |                   |               |              | 0012518              | 0223                  | 14936                         |                      |     |                   |                         |                          |
|                            |             | OBS          | 0102               | 1034                | 34918              | 2685                  |                   |               |              |                      |                       | 14932                         |                      |     |                   |                         |                          |
|                            |             | STD          | 0125               | 1037                | 3500               | 2691                  |                   |               |              | 0011833              | 0253                  | 14938                         |                      |     |                   |                         |                          |
| 127                        |             | STD          | 0150               | 1042                | 3507               | 2695                  |                   |               |              | 0011458              | 0282                  | 14945                         |                      |     |                   |                         |                          |
|                            |             | OBS          | 0154               | 1043                | 35078              | 2696                  |                   |               |              |                      |                       | 14946                         |                      |     |                   |                         |                          |
|                            |             | STD          | 0200               | 1060                | 3518               | 2701                  |                   |               |              | 0011072              | 0339                  | 14961                         |                      |     |                   |                         |                          |
| 127                        |             | OBS          | 0216               | 1066                | 35198              | 2701                  |                   |               |              |                      |                       | 14966                         |                      |     |                   |                         |                          |
|                            |             | STD          | 0250               | 1034                | 3518               | 2705                  |                   |               |              | 0010733              | 0393                  | 14959                         |                      |     |                   |                         |                          |
|                            |             | STD          | 0300               | 0983                | 3513               | 2710                  |                   |               |              | 0010356              | 0446                  | 14949                         |                      |     |                   |                         |                          |
| 127                        |             | OBS          | 0309               | 0973                | 35121              | 2711                  |                   |               |              |                      |                       | 14946                         |                      |     |                   |                         |                          |
|                            |             | STD          | 0400               | 0820                | 3498               | 2725                  |                   |               |              | 0009060              | 0543                  | 14902                         |                      |     |                   |                         |                          |
|                            |             | OBS          | 0413               |                     | 34962              |                       |                   |               |              |                      |                       |                               |                      |     |                   |                         |                          |
| 127                        |             | STD          | 0500               | 0700                | 3491               | 2737                  |                   |               |              | 0007995              | 0628                  | 14872                         |                      |     |                   |                         |                          |
|                            |             | OBS          | 0525               | 0678                | 34892              | 2738                  |                   |               |              |                      |                       | 14867                         |                      |     |                   |                         |                          |
|                            |             | STD          | 0600               | 0635                | 3497               | 2750                  |                   |               |              | 0006779              | 0702                  | 14863                         |                      |     |                   |                         |                          |
| 127                        |             | OBS          | 0621               | 0623                | 34980              | 2753                  |                   |               |              |                      |                       | 14862                         |                      |     |                   |                         |                          |
|                            |             | STD          | 0700               | 0562                | 3496               | 2759                  |                   |               |              | 0006005              | 0766                  | 14850                         |                      |     |                   |                         |                          |
|                            |             | STD          | 0800               | 0505                | 3495               | 2765                  |                   |               |              | 0005459              | 0824                  | 14844                         |                      |     |                   |                         |                          |
| 127                        |             | OBS          | 0820               | 0496                | 34948              | 2766                  |                   |               |              |                      |                       | 14843                         |                      |     |                   |                         |                          |
|                            |             | STD          | 0900               | 0484                | 3497               | 2769                  |                   |               |              | 0005156              | 0877                  | 14852                         |                      |     |                   |                         |                          |
|                            |             | STD          | 1000               | 0467                | 3498               | 2772                  |                   |               |              | 0004973              | 0927                  | 14862                         |                      |     |                   |                         |                          |
| 127                        |             | OBS          | 1037               | 0461                | 34986              | 2773                  |                   |               |              |                      |                       | 14865                         |                      |     |                   |                         |                          |
|                            |             | STD          | 1100               | 0446                | 3498               | 2774                  |                   |               |              | 0004808              | 0976                  | 14870                         |                      |     |                   |                         |                          |
|                            |             | STD          | 1200               | 0425                | 3496               | 2775                  |                   |               |              | 0004785              | 1024                  | 14877                         |                      |     |                   |                         |                          |
| 127                        |             | STD          | 1300               | 0409                | 3496               | 2777                  |                   |               |              | 0004675              | 1071                  | 14887                         |                      |     |                   |                         |                          |
|                            |             | OBS          | 11310              | 0408                | 34955              | 2776                  |                   |               |              |                      |                       | 14889                         |                      |     |                   |                         |                          |
|                            |             | STD          | 1400               | 0398                | 3495               | 2777                  |                   |               |              | 0004697              | 1118                  | 14900                         |                      |     |                   |                         |                          |
| 127                        |             | STD          | 1500               | 0392                | 3495               | 2778                  |                   |               |              | 0004708              | 1165                  | 14914                         |                      |     |                   |                         |                          |
|                            |             | OBS          | 11577              | 0391                | 34950              | 2778                  |                   |               |              |                      |                       | 14926                         |                      |     |                   |                         |                          |

| REFERENCE            | SHIP     | LATITUDE  | LONGITUDE | MARS DEN   | STATION TIME | YEAR    | ORIGINATOR'S                  |                             | DEPTH          | MAX. DEPTH          | WAVE                         |                   |                              | WEA-                         | CLOUD                          | MODC           |  |
|----------------------|----------|-----------|-----------|------------|--------------|---------|-------------------------------|-----------------------------|----------------|---------------------|------------------------------|-------------------|------------------------------|------------------------------|--------------------------------|----------------|--|
| CTRY CODE            | ID. NO.  | ° 1/10    | ° 1/10    | SQUARE     | (GMT)        |         | CRUISE NO.                    | STATION NUMBER              | TO BOTTOM      | OF SAMPLES          | DIR.                         | HGT               | PER                          | THIN CODE                    | CODES                          | STATION NUMBER |  |
| 311171               | CC       | 43550N    | 041050W   | 149 31     | 10 07 119    | 1967    | 011 012                       |                             | 4572           | 16                  | 33                           | 2                 | 3                            |                              | 4 8                            | 0012           |  |
|                      |          |           |           | WATER      |              | WIND    | AIR TEMP. °C                  |                             |                |                     |                              |                   | SPECIAL OBSERVATIONS         |                              |                                |                |  |
|                      |          |           |           | COLOR CODE | TRANSL. (m)  | DIR.    | SPEED OR FORCE                | BARO-METER (mba)            | DRY BULB       | WET BULB            | VIS CODE                     | NO. OBS. DEPTHS   |                              |                              |                                |                |  |
|                      |          |           |           | 33         | 515          | 081     | 178                           | 150                         | 7              | 14                  |                              |                   |                              |                              |                                |                |  |
| MESSAGE TIME HR 1/10 | CASE NO. | CARD TYPE | DEPTH (m) | T °C       | S ‰          | SIGMA-T | SPECIFIC VOLUME ANOMALY-30187 | Σ Δ ρ / ρ x 10 <sup>3</sup> | SOUND VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P μg - ml/l | TOTAL-P μg - ml/l | NO <sub>3</sub> -N μg - ml/l | NO <sub>3</sub> -N μg - ml/l | SiO <sub>4</sub> -Si μg - ml/l | pH             |  |
| 119                  |          | STD       | 0000      | 1958       | 3492         | 2483    |                               | 0031281                     | 0000           |                     |                              |                   |                              |                              |                                |                |  |
|                      |          | OBS       | 0000      | 1958       | 34921        | 2483    |                               |                             | 15209          |                     |                              |                   |                              |                              |                                |                |  |
|                      |          | STD       | 0010      | 1969       | 3500         | 2486    |                               | 0031008                     | 0031           |                     |                              |                   |                              |                              |                                |                |  |
| 119                  |          | STD       | 0020      | 1980       | 3509         | 2490    |                               | 0030660                     | 0062           |                     |                              |                   |                              |                              |                                |                |  |
|                      |          | OBS       | 0027      | 1987       | 35173        | 2495    |                               |                             | 15224          |                     |                              |                   |                              |                              |                                |                |  |
|                      |          | STD       | 0030      | 1975       | 3523         | 2502    |                               | 0029568                     | 0092           |                     |                              |                   |                              |                              |                                |                |  |
| 119                  |          | STD       | 0050      | 1875       | 3554         | 2552    |                               | 0024937                     | 0147           |                     |                              |                   |                              |                              |                                |                |  |
|                      |          | OBS       | 0053      | 1857       | 35570        | 2558    |                               |                             | 15197          |                     |                              |                   |                              |                              |                                |                |  |
|                      |          | STD       | 0075      | 1641       | 3555         | 2609    |                               | 0019514                     | 0202           |                     |                              |                   |                              |                              |                                |                |  |
| 119                  |          | STD       | 0100      | 1449       | 3553         | 2651    |                               | 0015639                     | 0246           |                     |                              |                   |                              |                              |                                |                |  |
|                      |          | OBS       | 0107      | 1406       | 35520        | 2659    |                               |                             | 15068          |                     |                              |                   |                              |                              |                                |                |  |
|                      |          | STD       | 0125      | 1329       | 3539         | 2665    |                               | 0014297                     | 0284           |                     |                              |                   |                              |                              |                                |                |  |
| 119                  |          | STD       | 0150      | 1248       | 3527         | 2672    |                               | 0013683                     | 0318           |                     |                              |                   |                              |                              |                                |                |  |
|                      |          | OBS       | 0161      | 1222       | 35244        | 2675    |                               |                             | 15012          |                     |                              |                   |                              |                              |                                |                |  |
|                      |          | STD       | 0200      | 1197       | 3528         | 2683    |                               | 0012807                     | 0385           |                     |                              |                   |                              |                              |                                |                |  |
| 119                  |          | OBS       | 0215      | 1182       | 35290        | 2687    |                               |                             | 15007          |                     |                              |                   |                              |                              |                                |                |  |
|                      |          | STD       | 0250      | 1117       | 3517         | 2690    |                               | 0012261                     | 0447           |                     |                              |                   |                              |                              |                                |                |  |
|                      |          | STD       | 0300      | 1033       | 3505         | 2695    |                               | 0011789                     | 0508           |                     |                              |                   |                              |                              |                                |                |  |
| 119                  |          | OBS       | 0321      | 1001       | 35012        | 2698    |                               |                             | 14957          |                     |                              |                   |                              |                              |                                |                |  |
|                      |          | STD       | 0400      | 0919       | 3501         | 2711    |                               | 0010395                     | 0618           |                     |                              |                   |                              |                              |                                |                |  |
|                      |          | OBS       | 0429      |            | 35007        |         |                               |                             |                |                     |                              |                   |                              |                              |                                |                |  |
| 119                  |          | STD       | 0500      | 0817       | 3501         | 2728    |                               | 0008975                     | 0715           |                     |                              |                   |                              |                              |                                |                |  |
|                      |          | OBS       | 0539      | 0778       | 35013        | 2734    |                               |                             | 14910          |                     |                              |                   |                              |                              |                                |                |  |
|                      |          | STD       | 0600      | 0718       | 3505         | 2745    |                               | 0007367                     | 0797           |                     |                              |                   |                              |                              |                                |                |  |
| 119                  |          | OBS       | 0642      | 0677       | 35055        | 2751    |                               |                             | 14888          |                     |                              |                   |                              |                              |                                |                |  |
|                      |          | STD       | 0700      | 0605       | 3501         | 2758    |                               | 0006214                     | 0865           |                     |                              |                   |                              |                              |                                |                |  |
|                      |          | STD       | 0800      | 0510       | 3495         | 2765    |                               | 0005523                     | 0924           |                     |                              |                   |                              |                              |                                |                |  |
| 119                  |          | OBS       | 0853      | 0476       | 34934        | 2767    |                               |                             | 14840          |                     |                              |                   |                              |                              |                                |                |  |
|                      |          | STD       | 0900      | 0472       | 3495         | 2769    |                               | 0005150                     | 0977           |                     |                              |                   |                              |                              |                                |                |  |
|                      |          | STD       | 1000      | 0462       | 3496         | 2771    |                               | 0005057                     | 1028           |                     |                              |                   |                              |                              |                                |                |  |
| 119                  |          | OBS       | 1076      | 0451       | 34970        | 2773    |                               |                             | 14868          |                     |                              |                   |                              |                              |                                |                |  |
|                      |          | STD       | 1100      | 0444       | 3497         | 2774    |                               | 0004856                     | 1078           |                     |                              |                   |                              |                              |                                |                |  |
|                      |          | STD       | 1200      | 0417       | 3495         | 2775    |                               | 0004756                     | 1126           |                     |                              |                   |                              |                              |                                |                |  |
| 119                  |          | STD       | 1300      | 0398       | 3493         | 2775    |                               | 0004754                     | 1173           |                     |                              |                   |                              |                              |                                |                |  |
|                      |          | OBS       | 11358     | 0390       | 34928        | 2776    |                               |                             | 14889          |                     |                              |                   |                              |                              |                                |                |  |
|                      |          | STD       | 1400      | 0389       | 3492         | 2776    |                               | 0004802                     | 1221           |                     |                              |                   |                              |                              |                                |                |  |
| 119                  |          | STD       | 1500      | 0387       | 3492         | 2776    |                               | 0004859                     | 1269           |                     |                              |                   |                              |                              |                                |                |  |
|                      |          | OBS       | 11621     | 0384       | 34914        | 2776    |                               |                             | 14930          |                     |                              |                   |                              |                              |                                |                |  |



TABLE II.—Continued

| REFERENCE<br>CTRY<br>CODE  | SHIP<br>CODE | LATITUDE<br>1/10 | LONGITUDE<br>1/10 | MARS<br>DEN<br>SQUARE | STATION TIME<br>(GMT) |                     |   | ORIGINATOR'S |   |                   | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPLE   | WAVE<br>OBSERVATIONS |                                 |                                 | WEA-<br>THER<br>CODE              | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |
|----------------------------|--------------|------------------|-------------------|-----------------------|-----------------------|---------------------|---|--------------|---|-------------------|-----------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|----------------|---------------------------|
|                            |              |                  |                   |                       | 10"                   | 1"                  | MO  | DAY          | HR  | DIR               |                       |                                 | HGT                  | PER                             | SEA                             |                                   |                |                           |
|                            |              |                  |                   |                       |                       |                     |   |              |   |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |
| 311171                     | CC           | 4357 N           | 04102 W           | 149 31                | 10                    | 09                  | 118   | 1967         | 011   | 013               | 4572                  | 15                              | 30                   | 2                               | 3                               |                                   | 4 6            | 0013                      |
|                            |              |                  |                   |                       |                       |                     |   |              |   |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              |                  | WATER             |                       | WIND                  |                     | BARO-<br>METER<br>(mb)                        |              | AIR TEMP. °C                                  |                   | VIS<br>CODE           |                                 | NO.<br>OBS.<br>DEPTH |                                 | SPECIAL<br>OBSERVATIONS         |                                   |                |                           |
|                            |              |                  | COLOR<br>CODE     | TRANS<br>(m)          | DIR                   | SPED<br>OF<br>FORCE |   |              | DRY<br>BULB                                   | WET<br>BULB       |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              |                  |                   |                       |                       | 24                  | 525   | 240          | 161   | 133               | 7                     | 14                              |                      |                                 |                                 |                                   |                |                           |
| MESSAGE<br>TIME<br>HR 1/10 | CAS<br>NO.   | CARD<br>TYPE     | DEPTH (m)         | T °C                  | S ‰                   | SIGMA-T             | SPECIFIC VOLUME<br>ANOMALY- $\sigma_{\theta}$ |              | $\Sigma \Delta D$<br>DTH. M.<br>$\times 10^3$ | SOUND<br>VELOCITY | O <sub>2</sub> ml/l   | PO <sub>4</sub> -P<br>µg - ml/l | TOTAL-P<br>µg - ml/l | NO <sub>3</sub> -N<br>µg - ml/l | NO <sub>2</sub> -N<br>µg - ml/l | SiO <sub>4</sub> -Si<br>µg - ml/l | pH             | COND.                     |
| 118                        |              | STD              | 0000              | 2033                  | 3580                  | 2530                | 0026807                                       |              | 0000  | 15240             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | OBS              | 0000              | 2033                  | 35798                 | 2530                |   |              |   | 15240             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | STD              | 0010              | 2034                  | 3580                  | 2530                | 0026847                                       |              | 0027  | 15242             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
| 118                        |              | STD              | 0020              | 2036                  | 3581                  | 2530                | 0026885                                       |              | 0054  | 15244             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | OBS              | 0024              | 2036                  | 35807                 | 2530                |   |              |   | 15244             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | STD              | 0030              | 1980                  | 3588                  | 2550                | 0024985                                       |              | 0080  | 15231             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
| 118                        |              | OBS              | 0047              | 1839                  | 36037                 | 2599                |   |              |   | 15196             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | STD              | 0050              | 1819                  | 3604                  | 2604                | 0019996                                       |              | 0125  | 15191             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | STD              | 0075              | 1677                  | 3602                  | 2637                | 0016888                                       |              | 0171  | 15153             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
| 118                        |              | OBS              | 0096              | 1593                  | 36011                 | 2656                |   |              |   | 15131             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | STD              | 0100              | 1588                  | 3601                  | 2657                | 0015075                                       |              | 0211  | 15130             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | STD              | 0125              | 1553                  | 3600                  | 2664                | 0014465                                       |              | 0248  | 15123             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
| 118                        |              | OBS              | 0145              | 1518                  | 35992                 | 2671                |   |              |   | 15116             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | STD              | 0150              | 1506                  | 3597                  | 2672                | 0013753                                       |              | 0283  | 15112             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | OBS              | 0194              | 1409                  | 35769                 | 2678                |   |              |   | 15086             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
| 118                        |              | STD              | 0200              | 1400                  | 3575                  | 2678                | 0013297                                       |              | 0350  | 15084             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | STD              | 0250              | 1327                  | 3562                  | 2684                | 0012920                                       |              | 0416  | 15066             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | OBS              | 0294              | 1268                  | 35555                 | 2690                |   |              |   | 15053             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
| 118                        |              | STD              | 0300              | 1264                  | 3556                  | 2691                | 0012298                                       |              | 0479  | 15053             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | OBS              | 0397              |                       | 35560                 |                     |   |              |   |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | STD              | 0400              | 1175                  | 3555                  | 2708                | 0010903                                       |              | 0595  | 15039             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
| 118                        |              | STD              | 0500              | 1044                  | 3533                  | 2715                | 0010374                                       |              | 0701  | 15006             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | OBS              | T0502             | 1041                  | 35322                 | 2715                |   |              |   | 15005             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | OBS              | 0592              | 0886                  | 35146                 | 2727                |   |              |   | 14961             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
| 118                        |              | STD              | 0600              | 0865                  | 3513                  | 2730                | 0009034                                       |              | 0799  | 14954             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | STD              | 0700              | 0653                  | 3497                  | 2748                | 0007176                                       |              | 0880  | 14887             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | OBS              | T0783             | 0538                  | 34908                 | 2758                |   |              |   | 14854             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
| 118                        |              | STD              | 0800              | 0534                  | 3492                  | 2759                | 0006057                                       |              | 0946  | 14855             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | STD              | 0900              | 0513                  | 3496                  | 2765                | 0005606                                       |              | 1004  | 14864             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | OBS              | 0989              | 0494                  | 34988                 | 2769                |   |              |   | 14871             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
| 118                        |              | STD              | 1000              | 0492                  | 3499                  | 2770                | 0005239                                       |              | 1058  | 14872             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | STD              | 1100              | 0471                  | 3498                  | 2772                | 0005111                                       |              | 1110  | 14880             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | STD              | 1200              | 0450                  | 3498                  | 2774                | 0004970                                       |              | 1160  | 14888             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
| 118                        |              | OBS              | T1243             | 0442                  | 34977                 | 2774                |   |              |   | 14892             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | STD              | 1300              | 0431                  | 3497                  | 2775                | 0004887                                       |              | 1210  | 14897             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | STD              | 1400              | 0413                  | 3496                  | 2776                | 0004820                                       |              | 1258  | 14906             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
| 118                        |              | STD              | 1500              | 0395                  | 3494                  | 2777                | 0004821                                       |              | 1306  | 14915             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | OBS              | T1501             | 0395                  | 34938                 | 2776                |   |              |   | 14915             |                       |                                 |                      |                                 |                                 |                                   |                |                           |

| REFERENCE<br>CTRY<br>CODE  | SHIP<br>CODE | LATITUDE<br>1/10 | LONGITUDE<br>1/10 | MARS<br>DEN<br>SQUARE | STATION TIME<br>(GMT) |                     |   | ORIGINATOR'S |   |                   | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPLE   | WAVE<br>OBSERVATIONS |                                 |                                 | WEA-<br>THER<br>CODE              | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |
|----------------------------|--------------|------------------|-------------------|-----------------------|-----------------------|---------------------|---|--------------|---|-------------------|-----------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|----------------|---------------------------|
|                            |              |                  |                   |                       | 10"                   | 1"                  | MO  | DAY          | HR  | DIR               |                       |                                 | HGT                  | PER                             | SEA                             |                                   |                |                           |
|                            |              |                  |                   |                       |                       |                     |   |              |   |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |
| 311171                     | CC           | 44000N           | 041000W           | 149 41                | 10                    | 10                  | 121   | 1967         | 011   | 014               | 4572                  | 16                              | 30                   | 3                               | 2                               |                                   | 3 6            | 0014                      |
|                            |              |                  |                   |                       |                       |                     |   |              |   |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              |                  | WATER             |                       | WIND                  |                     | BARO-<br>METER<br>(mb)                        |              | AIR TEMP. °C                                  |                   | VIS<br>CODE           |                                 | NO.<br>OBS.<br>DEPTH |                                 | SPECIAL<br>OBSERVATIONS         |                                   |                |                           |
|                            |              |                  | COLOR<br>CODE     | TRANS<br>(m)          | DIR                   | SPED<br>OF<br>FORCE |   |              | DRY<br>BULB                                   | WET<br>BULB       |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              |                  |                   |                       |                       | 29                  | 518   | 291          | 178   | 150               | 7                     | 14                              |                      |                                 |                                 |                                   |                |                           |
| MESSAGE<br>TIME<br>HR 1/10 | CAS<br>NO.   | CARD<br>TYPE     | DEPTH (m)         | T °C                  | S ‰                   | SIGMA-T             | SPECIFIC VOLUME<br>ANOMALY- $\sigma_{\theta}$ |              | $\Sigma \Delta D$<br>DTH. M.<br>$\times 10^3$ | SOUND<br>VELOCITY | O <sub>2</sub> ml/l   | PO <sub>4</sub> -P<br>µg - ml/l | TOTAL-P<br>µg - ml/l | NO <sub>3</sub> -N<br>µg - ml/l | NO <sub>2</sub> -N<br>µg - ml/l | SiO <sub>4</sub> -Si<br>µg - ml/l | pH             | COND.                     |
| 121                        |              | STD              | 0000              | 1966                  | 3545                  | 2521                | 0027636                                       |              | 0000  | 15217             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | OBS              | 0000              | 1966                  | 35451                 | 2521                |   |              |   | 15217             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | STD              | 0010              | 1968                  | 3548                  | 2523                | 0027502                                       |              | 0028  | 15220             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
| 121                        |              | STD              | 0020              | 1970                  | 3551                  | 2525                | 0027375                                       |              | 0055  | 15222             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | OBS              | 0026              | 1971                  | 35528                 | 2526                |   |              |   | 15224             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | STD              | 0030              | 1986                  | 3559                  | 2527                | 0027235                                       |              | 0082  | 15229             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
| 121                        |              | STD              | 0050              | 2004                  | 3583                  | 2540                | 0026008                                       |              | 0136  | 15240             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | OBS              | 0050              | 2004                  | 35832                 | 2540                |   |              |   | 15240             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | STD              | 0075              | 1781                  | 3592                  | 2604                | 0020012                                       |              | 0193  | 15183             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
| 121                        |              | STD              | 0100              | 1623                  | 3601                  | 2649                | 0015825                                       |              | 0238  | 15141             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | OBS              | 0102              | 1613                  | 36020                 | 2652                |   |              |   | 15138             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | STD              | 0125              | 1570                  | 3602                  | 2662                | 0014688                                       |              | 0276  | 15129             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
| 121                        |              | STD              | 0150              | 1513                  | 3597                  | 2671                | 0013902                                       |              | 0312  | 15114             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | OBS              | 0154              | 1503                  | 35953                 | 2672                |   |              |   | 15112             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | STD              | 0200              | 1360                  | 3571                  | 2684                | 0012781                                       |              | 0378  | 15070             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
| 121                        |              | OBS              | T0205             | 1349                  | 35689                 | 2684                |   |              |   | 15067             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | STD              | 0250              | 1328                  | 3568                  | 2688                | 0012480                                       |              | 0442  | 15068             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | STD              | 0300              | 1292                  | 3568                  | 2695                | 0011952                                       |              | 0503  | 15064             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
| 121                        |              | OBS              | 0307              | 1286                  | 35676                 | 2696                |   |              |   | 15063             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | STD              | 0400              | 1193                  | 3554                  | 2704                | 0011313                                       |              | 0619  | 15045             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | OBS              | 0410              |                       | 35518                 |                     |   |              |   |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |
| 121                        |              | STD              | 0500              | 1020                  | 3532                  | 2719                | 0010027                                       |              | 0726  | 14997             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | OBS              | T0519             | 0978                  | 35275                 | 2723                |   |              |   | 14985             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | STD              | 0600              | 0757                  | 3505                  | 2740                | 0007944                                       |              | 0816  | 14912             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
| 121                        |              | OBS              | 0616              | 0722                  | 35016                 | 2742                |   |              |   | 14901             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | STD              | 0700              | 0634                  | 3500                  | 2753                | 0006688                                       |              | 0889  | 14880             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | STD              | 0800              | 0550                  | 3498                  | 2762                | 0005826                                       |              | 0951  | 14862             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
| 121                        |              | OBS              | T0827             | 0532                  | 34975                 | 2764                |   |              |   | 14859             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | STD              | 0900              | 0497                  | 3497                  | 2768                | 0005316                                       |              | 1007  | 14857             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | STD              | 1000              | 0459                  | 3497                  | 2772                | 0004981                                       |              | 1059  | 14858             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
| 121                        |              | OBS              | 1041              | 0447                  | 34962                 | 2773                |   |              |   | 14860             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | STD              | 1100              | 0441                  | 3496                  | 2773                | 0004877                                       |              | 1108  | 14867             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | STD              | 1200              | 0431                  | 3496                  | 2775                | 0004841                                       |              | 1156  | 14880             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
| 121                        |              | STD              | 1300              | 0422                  | 3496                  | 2776                | 0004814                                       |              | 1205  | 14893             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | OBS              | T1326             | 0419                  | 34964                 | 2776                |   |              |   | 14896             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | STD              | 1400              | 0412                  | 3496                  | 2776                | 0004807                                       |              | 1253  | 14906             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
| 121                        |              | STD              | 1500              | 0402                  | 3496                  | 2777                | 0004767                                       |              | 1301  | 14918             |                       |                                 |                      |                                 |                                 |                                   |                |                           |
|                            |              | OBS              | T1596             | 0392                  | 34957                 | 2778                |   |              |   | 14930             |                       |                                 |                      |                                 |                                 |                                   |                |                           |



TABLE III.—Observed and interpolated oceanographic data for stations taken by USCGC ESCANABA at Ocean Station DELTA, 12 October–3 November 1967, prepared from NODC listing No. 31-1176 EN.

| REFERENCE          |          | SHIP CODE  | LATITUDE   | LONGITUDE | MARSDEN SQUARE | STATION TIME (GMT) |  | YEAR                            | ORIGINATOR'S   |                      | DEPTH TO BOTTOM              | MAX. DEPTH OF S'MPL'S | WAVE OBSERVATIONS            |                              |                                | WEA-THER CODE | CLOUD CODES | NODC STATION NUMBER |      |
|--------------------|----------|------------|------------|-----------|----------------|--------------------|--|---------------------------------|----------------|----------------------|------------------------------|-----------------------|------------------------------|------------------------------|--------------------------------|---------------|-------------|---------------------|------|
| CTRY CODE          | ID. NO.  |            | ° 1/10     | ° 1/10    | 10" 1"         | MO DAY HRL/10      |  |                                 | CRUISE NO.     | STATION NUMBER       |                              |                       | DIR                          | HGT                          | PER                            | SEA           | FTN         | AMT                 |      |
| 311176             | EN       |            | 43°50'N    | 04°05'W   | 14-05-10       | 10 12 13           | 1967                                   | 012                             | 001            |                      | 4755                         |                       | 24                           | 1                            | 3                              |               | 4           | 7                   | 0001 |
|                    |          | WATER      |            | WIND      | BARO-METER     | AIR TEMP. °C       |  | NO. OBS. DEPTHS                 |                | SPECIAL OBSERVATIONS |                              |                       |                              |                              |                                |               |             |                     |      |
|                    |          | COLOR CODE | TRANS. (m) | DIR.      | SPEED OF FORCE | DRY BULB           | WET BULB                               | VIS. CODE                       |                |                      |                              |                       |                              |                              |                                |               |             |                     |      |
|                    |          | 37         |            | 25        | 5.2            | 21.3               | 20.6                                   | 1.4                             | 7              | 15                   |                              |                       |                              |                              |                                |               |             |                     |      |
| MESSAGE TIME & NO. | CASE NO. | CARD TYPE  | DEPTH (m)  | T °C      | S ‰            | SIGMA-T            | SPECIFIC VOLUME ANOMALY-σ <sub>t</sub> | Σ Δ D DYN. M. ± 10 <sup>3</sup> | SOUND VELOCITY | O <sub>2</sub> ml/l  | PO <sub>4</sub> -P μg - ml/l | TOTAL-P μg - ml/l     | NO <sub>3</sub> -N μg - ml/l | NO <sub>2</sub> -N μg - ml/l | SiO <sub>4</sub> -Si μg - ml/l | pH            | CTD         |                     |      |
| 182                |          | STU        | 0000       | 14.97     | 35.43          | 22.45              | 0025407                                | 0000                            | 15228          |                      |                              |                       |                              |                              |                                |               |             |                     |      |
|                    |          | OPS        | 0010       | 14.97     | 35.53          | 25.45              |  |                                 | 15226          |                      |                              |                       |                              |                              |                                |               |             |                     |      |
|                    |          | STU        | 0020       | 14.94     | 35.53          | 22.48              | 0025171                                | 0025                            | 15229          |                      |                              |                       |                              |                              |                                |               |             |                     |      |
| 182                |          | OPS        | 0020       | 15.03     | 35.57          | 25.45              |  |                                 | 15230          |                      |                              |                       |                              |                              |                                |               |             |                     |      |
|                    |          | STU        | 0020       | 15.03     | 35.57          | 25.45              | 0025371                                | 0050                            | 15230          |                      |                              |                       |                              |                              |                                |               |             |                     |      |
|                    |          | STU        | 0030       | 15.02     | 35.56          | 25.50              | 0025035                                | 0075                            | 15232          |                      |                              |                       |                              |                              |                                |               |             |                     |      |
| 182                |          | OPS        | 0045       | 15.01     | 35.510         | 25.52              |  |                                 | 15234          |                      |                              |                       |                              |                              |                                |               |             |                     |      |
|                    |          | STU        | 0050       | 15.02     | 35.54          | 25.73              | 0023145                                | 0123                            | 15219          |                      |                              |                       |                              |                              |                                |               |             |                     |      |
|                    |          | STU        | 0075       | 15.02     | 35.07          | 26.37              | 0010007                                | 0173                            | 15158          |                      |                              |                       |                              |                              |                                |               |             |                     |      |
| 182                |          | OPS        | 0047       | 15.00     | 35.102         | 26.57              |  |                                 | 15139          |                      |                              |                       |                              |                              |                                |               |             |                     |      |
|                    |          | STU        | 0100       | 15.00     | 35.00          | 26.00              | 0014749                                | 0213                            | 15135          |                      |                              |                       |                              |                              |                                |               |             |                     |      |
|                    |          | STU        | 0145       | 15.05     | 35.07          | 26.67              | 0014255                                | 0244                            | 15128          |                      |                              |                       |                              |                              |                                |               |             |                     |      |
| 182                |          | OPS        | 0127       | 15.04     | 35.071         | 26.67              |  |                                 | 15128          |                      |                              |                       |                              |                              |                                |               |             |                     |      |
|                    |          | STU        | 0150       | 15.46     | 35.07          | 26.71              | 0013912                                | 0284                            | 15126          |                      |                              |                       |                              |                              |                                |               |             |                     |      |
| 182                |          | OPS        | 00174      | 15.14     | 35.026         | 26.75              |  |                                 | 15120          |                      |                              |                       |                              |                              |                                |               |             |                     |      |
|                    |          | STU        | 0200       | 14.74     | 35.04          | 26.77              | 0013440                                | 0353                            | 15110          |                      |                              |                       |                              |                              |                                |               |             |                     |      |
| 182                |          | OPS        | 0221       | 14.41     | 35.282         | 26.80              |  |                                 | 15102          |                      |                              |                       |                              |                              |                                |               |             |                     |      |
|                    |          | STU        | 0250       | 14.03     | 35.24          | 26.84              | 0012475                                | 0418                            | 15034          |                      |                              |                       |                              |                              |                                |               |             |                     |      |
| 182                |          | OPS        | 0260       | 13.82     | 35.24          | 26.80              |  |                                 | 15022          |                      |                              |                       |                              |                              |                                |               |             |                     |      |
|                    |          | STU        | 0300       | 13.83     | 35.73          | 26.87              | 0012539                                | 0452                            | 15089          |                      |                              |                       |                              |                              |                                |               |             |                     |      |
| 182                |          | OPS        | 0331       | 13.39     | 35.71          | 26.92              |  |                                 | 15085          |                      |                              |                       |                              |                              |                                |               |             |                     |      |
|                    |          | STU        | 0400       | 12.59     | 35.70          | 26.93              | 0011975                                | 0605                            | 15077          |                      |                              |                       |                              |                              |                                |               |             |                     |      |
| 182                |          | OPS        | 0417       | 12.70     | 35.71          | 26.97              |  |                                 | 15075          |                      |                              |                       |                              |                              |                                |               |             |                     |      |
|                    |          | OPS        | 0431       | 11.59     | 35.85          | 27.05              |  |                                 | 15047          |                      |                              |                       |                              |                              |                                |               |             |                     |      |
|                    |          | STU        | 0500       | 11.41     | 35.47          | 27.08              | 0011132                                | 0720                            | 15042          |                      |                              |                       |                              |                              |                                |               |             |                     |      |
|                    |          | STU        | 0600       | 09.59     | 35.25          | 27.24              | 0007713                                | 0824                            | 14991          |                      |                              |                       |                              |                              |                                |               |             |                     |      |
| 182                |          | OPS        | 0650       | 08.78     | 35.13          | 27.33              |  |                                 | 14966          |                      |                              |                       |                              |                              |                                |               |             |                     |      |
|                    |          | STU        | 0700       | 08.43     | 35.44          | 27.34              | 0006763                                | 0917                            | 14903          |                      |                              |                       |                              |                              |                                |               |             |                     |      |
|                    |          | STU        | 0800       | 07.72     | 35.12          | 27.45              | 0005035                                | 1001                            | 14952          |                      |                              |                       |                              |                              |                                |               |             |                     |      |
|                    |          | STU        | 0900       | 07.02     | 35.09          | 27.51              | 0007331                                | 1178                            | 14941          |                      |                              |                       |                              |                              |                                |               |             |                     |      |
|                    |          | STU        | 1000       | 06.31     | 35.06          | 27.58              | 0005549                                | 1147                            | 14929          |                      |                              |                       |                              |                              |                                |               |             |                     |      |
|                    |          | STU        | 1100       | 05.61     | 35.03          | 27.65              | 0005935                                | 1211                            | 14917          |                      |                              |                       |                              |                              |                                |               |             |                     |      |
|                    |          | STU        | 1200       | 04.91     | 35.00          | 27.71              | 0005254                                | 1267                            | 14905          |                      |                              |                       |                              |                              |                                |               |             |                     |      |
| 182                |          | OPS        | 11295      | 04.23     | 34.77          | 27.76              |  |                                 | 14893          |                      |                              |                       |                              |                              |                                |               |             |                     |      |

| REFERENCE          | SHIP CODE | LATITUDE   | LONGITUDE  | MARSDEN SQUARE | STATION TIME (GMT) |               | YEAR                                   | ORIGINATOR'S                    |                | DEPTH TO BOTTOM      | MAX. DEPTH OF S'MPL'S        | WAVE OBSERVATIONS |                              |                              | WEA-THER CODE                  | CLOUD CODES | NODC STATION NUMBER |     |      |
|--------------------|-----------|------------|------------|----------------|--------------------|---------------|--|---------------------------------|----------------|----------------------|------------------------------|-------------------|------------------------------|------------------------------|--------------------------------|-------------|---------------------|-----|------|
| CTRY CODE          | ID. NO.   |            | ° 1/10     | ° 1/10         | 10" 1"             | MO DAY HRL/10 |  |                                 | CRUISE NO.     | STATION NUMBER       |                              |                   | DIR                          | HGT                          | PER                            | SEA         | FTN                 | AMT |      |
| 311176             | EN        |            | 44°12'N    | 04°05'W        | 14-05-10           | 10 12 13      | 1967                                   | 012                             | 002            |                      | 4845                         |                   | 27                           | 2                            | 3                              |             | 6                   | 9   | 0002 |
|                    |           | WATER      |            | WIND           | BARO-METER         | AIR TEMP. °C  |  | NO. OBS. DEPTHS                 |                | SPECIAL OBSERVATIONS |                              |                   |                              |                              |                                |             |                     |     |      |
|                    |           | COLOR CODE | TRANS. (m) | DIR.           | SPEED OF FORCE     | DRY BULB      | WET BULB                               | VIS. CODE                       |                |                      |                              |                   |                              |                              |                                |             |                     |     |      |
|                    |           | 04         |            | 25             | 5.1                | 20.6          | 19.4                                   | 7                               | 14             |                      |                              |                   |                              |                              |                                |             |                     |     |      |
| MESSAGE TIME & NO. | CASE NO.  | CARD TYPE  | DEPTH (m)  | T °C           | S ‰                | SIGMA-T       | SPECIFIC VOLUME ANOMALY-σ <sub>t</sub> | Σ Δ D DYN. M. ± 10 <sup>3</sup> | SOUND VELOCITY | O <sub>2</sub> ml/l  | PO <sub>4</sub> -P μg - ml/l | TOTAL-P μg - ml/l | NO <sub>3</sub> -N μg - ml/l | NO <sub>2</sub> -N μg - ml/l | SiO <sub>4</sub> -Si μg - ml/l | pH          | CTD                 |     |      |
| 001                |           | STU        | 0000       | 17.19          | 35.21              | 25.15         | 0025243                                | 0000                            | 15231          |                      |                              |                   |                              |                              |                                |             |                     |     |      |
|                    |           | OPS        | 0000       | 17.19          | 35.20              | 25.15         |  |                                 | 15201          |                      |                              |                   |                              |                              |                                |             |                     |     |      |
|                    |           | STU        | 0010       | 15.25          | 35.28              | 25.19         | 0027900                                | 0020                            | 15206          |                      |                              |                   |                              |                              |                                |             |                     |     |      |
|                    |           | STU        | 0020       | 15.30          | 35.40              | 25.25         | 0027340                                | 0055                            | 15212          |                      |                              |                   |                              |                              |                                |             |                     |     |      |
| 001                |           | OPS        | 0024       | 15.40          | 35.54              | 25.28         |  |                                 | 15214          |                      |                              |                   |                              |                              |                                |             |                     |     |      |
|                    |           | STU        | 0030       | 15.02          | 35.00              | 25.33         | 0026011                                | 0082                            | 15223          |                      |                              |                   |                              |                              |                                |             |                     |     |      |
|                    |           | OPS        | 0040       | 15.74          | 35.33              | 25.35         |  |                                 | 15233          |                      |                              |                   |                              |                              |                                |             |                     |     |      |
|                    |           | STU        | 0050       | 15.03          | 35.94              | 25.54         | 0024203                                | 0133                            | 15230          |                      |                              |                   |                              |                              |                                |             |                     |     |      |
|                    |           | STU        | 0075       | 17.21          | 36.01              | 26.26         | 0017952                                | 0185                            | 15156          |                      |                              |                   |                              |                              |                                |             |                     |     |      |
| 001                |           | OPS        | 0099       | 15.72          | 35.043             | 26.03         |  |                                 | 15125          |                      |                              |                   |                              |                              |                                |             |                     |     |      |
|                    |           | STU        | 0100       | 15.71          | 35.34              | 26.03         | 0014432                                | 0226                            | 15125          |                      |                              |                   |                              |                              |                                |             |                     |     |      |
|                    |           | STU        | 0125       | 15.46          | 35.02              | 26.07         | 0014145                                | 0262                            | 15121          |                      |                              |                   |                              |                              |                                |             |                     |     |      |
| 001                |           | OPS        | 0143       | 15.16          | 35.99              | 26.72         |  |                                 | 15115          |                      |                              |                   |                              |                              |                                |             |                     |     |      |
|                    |           | STU        | 0143       | 15.12          | 35.09              | 26.72         | 0013753                                | 0297                            | 15114          |                      |                              |                   |                              |                              |                                |             |                     |     |      |
| 001                |           | OPS        | 0159       | 14.25          | 35.21              | 26.79         |  |                                 | 15092          |                      |                              |                   |                              |                              |                                |             |                     |     |      |
|                    |           | STU        | 0200       | 14.23          | 35.27              | 26.79         | 0013200                                | 0365                            | 15097          |                      |                              |                   |                              |                              |                                |             |                     |     |      |
|                    |           | STU        | 0250       | 13.81          | 35.43              | 26.99         | 0012694                                | 0430                            | 15083          |                      |                              |                   |                              |                              |                                |             |                     |     |      |
| 001                |           | OPS        | 0250       | 13.44          | 35.77              | 26.91         |  |                                 | 15093          |                      |                              |                   |                              |                              |                                |             |                     |     |      |
|                    |           | STU        | 0300       | 13.47          | 35.73              | 26.92         | 0012315                                | 0492                            | 15093          |                      |                              |                   |                              |                              |                                |             |                     |     |      |
| 001                |           | OPS        | 0347       | 12.02          | 35.723             | 26.97         |  |                                 | 15084          |                      |                              |                   |                              |                              |                                |             |                     |     |      |
|                    |           | STU        | 0400       | 12.07          | 35.71              | 26.97         | 0012355                                | 0614                            | 15062          |                      |                              |                   |                              |                              |                                |             |                     |     |      |
| 001                |           | OPS        | 0442       | 11.17          | 35.42              | 27.09         |  |                                 | 15032          |                      |                              |                   |                              |                              |                                |             |                     |     |      |
|                    |           | STU        | 0500       | 10.31          | 35.35              | 27.14         | 0010843                                | 0728                            | 15024          |                      |                              |                   |                              |                              |                                |             |                     |     |      |
| 001                |           | OPS        | 0534       | 09.45          | 35.031             | 27.25         |  |                                 | 14946          |                      |                              |                   |                              |                              |                                |             |                     |     |      |
|                    |           | STU        | 0600       | 08.40          | 35.04              | 27.26         | 0009315                                | 0824                            | 14943          |                      |                              |                   |                              |                              |                                |             |                     |     |      |
|                    |           | STU        | 0700       | 07.44          | 35.07              | 27.44         | 0007055                                | 0914                            | 14925          |                      |                              |                   |                              |                              |                                |             |                     |     |      |
| 001                |           | OPS        | 0752       | 06.67          | 35.135             | 27.57         |  |                                 | 14909          |                      |                              |                   |                              |                              |                                |             |                     |     |      |
|                    |           | STU        | 0800       | 06.60          | 35.10              | 27.57         | 0005400                                | 0945                            | 14903          |                      |                              |                   |                              |                              |                                |             |                     |     |      |
|                    |           | STU        | 0900       | 05.71          | 35.06              | 27.55         | 0005770                                | 1040                            | 14892          |                      |                              |                   |                              |                              |                                |             |                     |     |      |
| 001                |           | OPS        | 0957       | 05.16          | 35.01              | 27.54         |  |                                 | 14882          |                      |                              |                   |                              |                              |                                |             |                     |     |      |
|                    |           | STU        | 1000       | 05.15          | 35.02              | 27.55         | 0005310                                | 1101                            | 14880          |                      |                              |                   |                              |                              |                                |             |                     |     |      |
|                    |           | STU        | 1100       | 04.71          | 34.97              | 27.71         | 0005184                                | 1154                            | 14880          |                      |                              |                   |                              |                              |                                |             |                     |     |      |
|                    |           | STU        | 1200       | 04.07          | 34.94              | 27.72         | 0005055                                | 1203                            | 14882          |                      |                              |                   |                              |                              |                                |             |                     |     |      |
| 001                |           | OPS        | 11241      | 04.28          | 34.93              | 27.73         |  |                                 | 14884          |                      |                              |                   |                              |                              |                                |             |                     |     |      |
|                    |           | STU        | 1300       | 03.11          | 34.94              | 27.74         | 0004955                                | 1255                            | 14891          |                      |                              |                   |                              |                              |                                |             |                     |     |      |
|                    |           | STU        | 1400       | 02.04          | 34.94              | 27.75         | 0004844                                | 1314                            | 14903          |                      |                              |                   |                              |                              |                                |             |                     |     |      |
|                    |           | STU        | 1500       | 01.04          | 34.95              | 27.77         | 0004731                                | 1352                            | 14915          |                      |                              |                   |                              |                              |                                |             |                     |     |      |
| 001                |           | OPS        | 11501      | 03.54          | 34.95              | 27.77         |  |                                 |                |                      |                              |                   |                              |                              |                                |             |                     |     |      |



TABLE III.—Continued

| REFERENCE<br>CIN<br>CODE     | ID.<br>NO.  | SHIP<br>CODE | LATITUDE<br>° ' 1/10 | LONGITUDE<br>° ' 1/10 | WARS-<br>DEN<br>SQUARE | STATION TIME<br>(GMT) |   |                  | YEAR                                  | ORIGINATOR'S      |                     | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLE | WAVE<br>OBSERVATIONS            |                                 |                                  | WEA-<br>THER<br>CODE | CLOUD<br>CODES |      | NODC<br>STATION<br>NUMBER |  |
|------------------------------|-------------|--------------|----------------------|-----------------------|------------------------|-----------------------|---|------------------|---------------------------------------|-------------------|---------------------|---------------------------------|-------------------------------|---------------------------------|---------------------------------|----------------------------------|----------------------|----------------|------|---------------------------|--|
|                              |             |              |                      |                       |                        | MO DAY HR. 1/10       |   |                  |                                       | CRUISE<br>NO.     | STATION<br>NUMBER   |                                 |                               | DIR.                            | HGT.                            | PER.                             |                      | TYPE           | AMT. |                           |  |
|                              |             |              |                      |                       |                        | 10'                   | 1'  | MO. DAY HR. 1/10 |                                       |                   |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
| 311176                       |             | EN           | 4358 N               | 04055 W               | 14-30                  | 10                    | 14  | 233              | 1907                                  | 012               | 003                 | 4801                            |                               | 19                              | 2                               | 3                                |                      | 63             | 5 9  | 0003                      |  |
|                              |             |              |                      |                       |                        |                       |   |                  |                                       |                   |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             |              |                      |                       |                        | WATER                 |   | WIND             |                                       | BARO-<br>METER    |                     | AIR TEMP. °C                    |                               | VLS<br>CODE                     | NO.<br>OBS.<br>DEPTH            | SPECIAL<br>OBSERVATIONS          |                      |                |      |                           |  |
|                              |             |              |                      |                       |                        | COLOR<br>CODE         | TRANS.<br>MIL                             | DIR.             | SPEED<br>OR<br>FORCE                  | DRY<br>BULB       | WET<br>BULB         | DRY<br>BULB                     | WET<br>BULB                   |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             |              |                      |                       |                        | 01                    |   |                  | 24                                    | 525               | 078                 | 206                             | 200                           | 6                               | 14                              |                                  |                      |                |      |                           |  |
| MISSIONS<br>TIME<br>HR. 1/10 | CAST<br>NO. | CARD<br>TYPE | DEPTH (m)            | T °C                  | S ‰                    | SIGMA-T               | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> |                  | Σ Δ σ<br>DYN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>2</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l          | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>2</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -S<br>μg - ml/l | pH                   | Σ<br>COC       |      |                           |  |
|                              |             | STD          | 0700                 | 1924                  | 3503                   | 2470                  | 0029907                                   |                  | 0000                                  | 15230             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
| 239                          |             | ORS          | 0000                 | 1924                  | 34956                  | 2478                  |   |                  |                                       | 15200             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 0010                 | 1930                  | 3507                   | 2502                  | 0029534                                   |                  | 0029                                  | 15205             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 0020                 | 1937                  | 3520                   | 2510                  | 0028777                                   |                  | 0058                                  | 15210             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
| 239                          |             | ORS          | 0025                 | 1940                  | 35289                  | 2516                  |   |                  |                                       | 15212             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 0030                 | 1927                  | 3545                   | 2531                  | 0026818                                   |                  | 0086                                  | 15211             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 0050                 | 1807                  | 3594                   | 2544                  | 0021856                                   |                  | 0135                                  | 15203             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
| 239                          |             | ORS          | 0052                 | 1800                  | 35975                  | 2547                  |   |                  |                                       | 15202             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 0075                 | 1756                  | 3607                   | 2621                  | 0018384                                   |                  | 0185                                  | 15177             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 0100                 | 1600                  | 3617                   | 2652                  | 0015535                                   |                  | 0228                                  | 15154             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
| 239                          |             | ORS          | 0104                 | 1646                  | 35183                  | 2657                  |   |                  |                                       | 15151             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 0125                 | 1581                  | 3607                   | 2663                  | 0014572                                   |                  | 0205                                  | 15133             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 0150                 | 1519                  | 3596                   | 2669                  | 0014046                                   |                  | 0301                                  | 15116             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
| 239                          |             | ORS          | 0154                 | 1511                  | 35950                  | 2670                  |   |                  |                                       | 15114             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 0200                 | 1446                  | 3594                   | 2676                  | 0013574                                   |                  | 0370                                  | 15100             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
| 239                          |             | ORS          | 0203                 | 1446                  | 35843                  | 2676                  |   |                  |                                       | 15100             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 0250                 | 1402                  | 3574                   | 2681                  | 0013172                                   |                  | 0437                                  | 15093             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 0300                 | 1343                  | 3571                   | 2687                  | 0012727                                   |                  | 0502                                  | 15081             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
| 239                          |             | ORS          | 0310                 | 1330                  | 35671                  | 2688                  |   |                  |                                       | 15078             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 0400                 | 1182                  | 3544                   | 2698                  | 0011828                                   |                  | 0625                                  | 15039             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
| 239                          |             | ORS          | 0412                 | 1162                  | 35414                  | 2700                  |   |                  |                                       | 15034             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 0500                 | 1029                  | 3528                   | 2714                  | 0010451                                   |                  | 0736                                  | 15000             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
| 239                          |             | ORS          | T0515                | 0997                  | 35246                  | 2717                  |   |                  |                                       | 14990             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 0600                 | 0749                  | 3472                   | 2731                  | 0008761                                   |                  | 0832                                  | 14907             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
| 239                          |             | ORS          | 0616                 | 0714                  | 34885                  | 2733                  |   |                  |                                       | 14896             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 0700                 | 0667                  | 3499                   | 2748                  | 0007222                                   |                  | 0912                                  | 14893             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 0800                 | 0611                  | 3506                   | 2761                  | 0006077                                   |                  | 0978                                  | 14888             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
| 239                          |             | ORS          | T0816                | 0602                  | 35064                  | 2762                  |   |                  |                                       | 14887             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 0900                 | 0543                  | 3503                   | 2766                  | 0005591                                   |                  | 1037                                  | 14879             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 1000                 | 0475                  | 3499                   | 2769                  | 0005258                                   |                  | 1071                                  | 14873             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
| 239                          |             | ORS          | 1019                 | 0487                  | 34986                  | 2770                  |   |                  |                                       | 14873             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 1100                 | 0461                  | 3498                   | 2772                  | 0005026                                   |                  | 1142                                  | 14876             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 1200                 | 0434                  | 3497                   | 2774                  | 0004652                                   |                  | 1192                                  | 14881             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
| 239                          |             | ORS          | T1269                | 0419                  | 34961                  | 2776                  |   |                  |                                       | 14886             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 1300                 | 0413                  | 3496                   | 2776                  | 0004735                                   |                  | 1240                                  | 14839             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 1400                 | 0398                  | 3495                   | 2777                  | 0004672                                   |                  | 1287                                  | 14899             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 1500                 | 0388                  | 3495                   | 2778                  | 0004666                                   |                  | 1334                                  | 14912             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | ORS          | T1537                | 0366                  | 34948                  | 2778                  |   |                  |                                       | 14918             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |

| REFERENCE<br>CIN<br>CODE     | ID.<br>NO.  | SHIP<br>CODE | LATITUDE<br>° ' 1/10 | LONGITUDE<br>° ' 1/10 | WARS-<br>DEN<br>SQUARE | STATION TIME<br>(GMT) |   |                  | YEAR                                  | ORIGINATOR'S      |                     | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLE | WAVE<br>OBSERVATIONS            |                                 |                                  | WEA-<br>THER<br>CODE | CLOUD<br>CODES |      | NODC<br>STATION<br>NUMBER |  |
|------------------------------|-------------|--------------|----------------------|-----------------------|------------------------|-----------------------|---|------------------|---------------------------------------|-------------------|---------------------|---------------------------------|-------------------------------|---------------------------------|---------------------------------|----------------------------------|----------------------|----------------|------|---------------------------|--|
|                              |             |              |                      |                       |                        | MO DAY HR. 1/10       |   |                  |                                       | CRUISE<br>NO.     | STATION<br>NUMBER   |                                 |                               | DIR.                            | HGT.                            | PER.                             |                      | TYPE           | AMT. |                           |  |
|                              |             |              |                      |                       |                        | 10'                   | 1'  | MO. DAY HR. 1/10 |                                       |                   |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
| 311176                       |             | EN           | 4358 N               | 04125 W               | 14-31                  | 10                    | 13  | 002              | 1957                                  | 014               | 004                 | 4755                            |                               | 03                              | 2                               | 4                                |                      | 8 6            |      | 0004                      |  |
|                              |             |              |                      |                       |                        |                       |   |                  |                                       |                   |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             |              |                      |                       |                        | WATER                 |   | WIND             |                                       | BARO-<br>METER    |                     | AIR TEMP. °C                    |                               | VLS<br>CODE                     | NO.<br>OBS.<br>DEPTH            | SPECIAL<br>OBSERVATIONS          |                      |                |      |                           |  |
|                              |             |              |                      |                       |                        | COLOR<br>CODE         | TRANS.<br>MIL                             | DIR.             | SPEED<br>OR<br>FORCE                  | DRY<br>BULB       | WET<br>BULB         | DRY<br>BULB                     | WET<br>BULB                   |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             |              |                      |                       |                        | 01                    |   |                  | 01                                    | 518               | 154                 | 150                             | 139                           | 7                               | 14                              |                                  |                      |                |      |                           |  |
| MISSIONS<br>TIME<br>HR. 1/10 | CAST<br>NO. | CARD<br>TYPE | DEPTH (m)            | T °C                  | S ‰                    | SIGMA-T               | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> |                  | Σ Δ σ<br>DYN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>2</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l          | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>2</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -S<br>μg - ml/l | pH                   | Σ<br>COC       |      |                           |  |
|                              |             | STD          | 0000                 | 1901                  | 3558                   | 2535                  | 0026358                                   |                  | 0000                                  | 15224             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
| 302                          |             | ORS          | 0000                 | 1981                  | 35675                  | 2535                  |   |                  |                                       | 15224             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 0010                 | 1980                  | 3568                   | 2535                  | 0026368                                   |                  | 0026                                  | 15225             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 0020                 | 1979                  | 3569                   | 2535                  | 0026368                                   |                  | 0052                                  | 15227             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
| 302                          |             | ORS          | 0025                 | 1979                  | 35684                  | 2536                  |   |                  |                                       | 15228             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 0030                 | 1977                  | 3575                   | 2542                  | 0025823                                   |                  | 0078                                  | 15229             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 0050                 | 1968                  | 3567                   | 2560                  | 0024100                                   |                  | 0128                                  | 15232             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
| 302                          |             | ORS          | 0050                 | 1969                  | 35675                  | 2560                  |   |                  |                                       | 15232             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 0075                 | 1749                  | 3607                   | 2624                  | 0018112                                   |                  | 0181                                  | 15174             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 0100                 | 1542                  | 3610                   | 2663                  | 0014494                                   |                  | 0222                                  | 15132             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
| 302                          |             | ORS          | 0101                 | 1587                  | 36171                  | 2664                  |   |                  |                                       | 15131             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 0125                 | 1541                  | 3604                   | 2670                  | 0013996                                   |                  | 0257                                  | 15120             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 0150                 | 1499                  | 3598                   | 2675                  | 0013539                                   |                  | 0292                                  | 15110             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
| 002                          |             | ORS          | 0151                 | 1497                  | 35976                  | 2675                  |   |                  |                                       | 15110             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 0200                 | 1434                  | 3584                   | 2673                  | 0013327                                   |                  | 0359                                  | 15096             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
| 302                          |             | ORS          | T0202                | 1431                  | 36337                  | 2678                  |   |                  |                                       | 15095             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 0250                 | 1375                  | 3578                   | 2685                  | 0012701                                   |                  | 0424                                  | 15084             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 0300                 | 1317                  | 3572                   | 2693                  | 0012137                                   |                  | 0486                                  | 15073             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
| 002                          |             | ORS          | 0301                 | 1316                  | 35714                  | 2693                  |   |                  |                                       | 15072             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 0400                 | 1206                  | 3554                   | 2704                  | 0011290                                   |                  | 0603                                  | 15050             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 0401                 | 1235                  | 35575                  | 2705                  |   |                  |                                       | 15049             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
| 302                          |             | STD          | 0500                 | 1024                  | 3533                   | 2718                  | 0010128                                   |                  | 0710                                  | 15000             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | ORS          | T0502                | 0824                  | 35421                  | 2718                  |   |                  |                                       | 14995             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 0500                 | 0834                  | 3516                   | 2737                  | 0005354                                   |                  | 0302                                  | 14943             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
| 302                          |             | ORS          | 0500                 | 0734                  | 35165                  | 2737                  |   |                  |                                       | 14943             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 0700                 | 0649                  | 3508                   | 2750                  | 0007040                                   |                  | 0379                                  | 14907             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 0800                 | 0549                  | 3502                   | 2750                  | 0006112                                   |                  | 0345                                  | 14691             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
| 302                          |             | ORS          | T0803                | 0549                  | 35024                  | 2750                  |   |                  |                                       | 14691             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 0900                 | 0529                  | 3500                   | 2769                  | 0005511                                   |                  | 1003                                  | 14670             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 1000                 | 0477                  | 3499                   | 2771                  | 0005074                                   |                  | 1056                                  | 14866             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
| 002                          |             | ORS          | 1001                 | 0477                  | 34954                  | 2771                  |   |                  |                                       | 14666             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 1100                 | 0461                  | 3500                   | 2774                  | 0004358                                   |                  | 1106                                  | 14876             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 1200                 | 0446                  | 3501                   | 2776                  | 0004599                                   |                  | 1153                                  | 14887             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
| 002                          |             | ORS          | T1244                | 0449                  | 35003                  | 2777                  |   |                  |                                       | 14891             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 1300                 | 0420                  | 3501                   | 2778                  | 0004621                                   |                  | 1200                                  | 14897             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 1400                 | 0413                  | 3499                   | 2777                  | 0004907                                   |                  | 1246                                  | 14907             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
|                              |             | STD          | 1500                 | 0401                  | 3497                   | 2778                  | 0004657                                   |                  | 1293                                  | 14916             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |
| 302                          |             | ORS          | T1504                | 0400                  | 34971                  | 2779                  |   |                  |                                       | 14918             |                     |                                 |                               |                                 |                                 |                                  |                      |                |      |                           |  |



TABLE III.—Continued

| REFERENCE<br>SHIP<br>CODE  | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | WAVE<br>DIRECTION      | MARSDEN<br>SQUARE     |         | STATION TIME<br>(GMT)          |                                       | YEAR                   | ORIGINATOR'S        |                                 | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPLE   | WAVE<br>OBSERVATIONS            |                                   |     | WEA-<br>THER<br>CODE | CLOUD<br>CODES |     | NDDC<br>STATION<br>NUMBER |
|----------------------------|--------------|--------------------|---------------------|------------------------|-----------------------|---------|--------------------------------|---------------------------------------|------------------------|---------------------|---------------------------------|-----------------------|---------------------------------|---------------------------------|-----------------------------------|-----|----------------------|----------------|-----|---------------------------|
|                            |              |                    |                     |                        | 10°                   | 1°      | MO                             | DAY                                   |                        | CRUISE<br>NO.       | STATION<br>NUMBER               |                       |                                 | DIR                             | HGT                               | PER |                      | TPN            | AMT |                           |
| 311176                     | EN           | 4400 N             | 04100 W             | 149                    | 41                    | 10      | 15                             | 123                                   | 1967                   | 012                 | 005                             | 4846                  |                                 | 01                              | 2                                 | 4   |                      | 8              | 7   | 0005                      |
|                            |              |                    |                     |                        |                       |         |                                |                                       |                        |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              |                    |                     | WATER<br>COLOR<br>CODE | WIND<br>TRANS.<br>NO. |         | DIR.                           | SPEED<br>OF<br>FORCE                  | BARO-<br>METER<br>(mb) | AIR TEMP. °C        |                                 | VOL.<br>CODE          | NO.<br>OBS.<br>DEPTHS           | SPECIAL<br>OBSERVATIONS         |                                   |     |                      |                |     |                           |
|                            |              |                    |                     |                        |                       |         |                                |                                       |                        |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              |                    |                     | 01                     | 01                    |         | 01                             | S12                                   | 175                    | 139                 |                                 | 100                   | 7                               | 14                              |                                   |     |                      |                |     |                           |
|                            |              |                    |                     |                        |                       |         |                                |                                       |                        |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
| MESSAGE<br>TIME<br>HR 1/10 | CASST<br>NO. | CARD<br>TYPE       | DEPTH (m)           | T °C                   | S ‰                   | SIGMA-T | SPECIFIC VOLUME<br>ANOMALY-20° | Σ Δ D<br>DYN. M.<br>X 10 <sup>3</sup> | SOUND<br>VELOCITY      | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l  | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH  | S<br>°C              |                |     |                           |
|                            |              | STD                | 0000                | 1967                   | 3570                  | 2540    | 0025833                        | 0000                                  | 15221                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
| 126                        |              | OBS                | 0000                | 1967                   | 35704                 | 2540    |                                |                                       | 15221                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 0010                | 1967                   | 3570                  | 2540    | 0025878                        | 0025                                  | 15222                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 0020                | 1968                   | 3570                  | 2540    | 0025923                        | 0051                                  | 15224                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 0030                | 1963                   | 3570                  | 2540    | 0025963                        | 0077                                  | 15226                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
| 126                        |              | OBS                | 0021                | 1953                   | 35704                 | 2540    |                                |                                       | 15226                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 0050                | 1959                   | 3572                  | 2544    | 0025685                        | 0129                                  | 15227                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
| 126                        |              | OBS                | 0061                | 1954                   | 35744                 | 2547    |                                |                                       | 15227                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 0075                | 1930                   | 3584                  | 2585    | 0021895                        | 0188                                  | 15198                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 0100                | 1664                   | 3597                  | 2636    | 0017095                        | 0237                                  | 15153                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
| 126                        |              | OBS                | 0123                | 1553                   | 36026                 | 2666    |                                |                                       | 15123                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 0125                | 1550                   | 3602                  | 2667    | 0014232                        | 0276                                  | 15123                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 0150                | 1516                   | 3599                  | 2672    | 0013805                        | 0311                                  | 15116                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
| 126                        |              | OBS                | 0183                | 1469                   | 35934                 | 2678    |                                |                                       | 15106                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 0200                | 1439                   | 3588                  | 2680    | 0013135                        | 0379                                  | 15078                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
| 126                        |              | OBS                | 0243                | 1376                   | 35766                 | 2685    |                                |                                       | 15083                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 0250                | 1376                   | 3576                  | 2684    | 0012803                        | 0444                                  | 15084                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 0300                | 1357                   | 3573                  | 2686    | 0012851                        | 0508                                  | 15086                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
| 126                        |              | OBS                | 0306                | 1237                   | 35692                 | 2697    |                                |                                       | 15073                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 0400                | 1205                   | 3552                  | 2700    | 0011692                        | 0631                                  | 15049                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
| 126                        |              | OBS                | 0487                | 1023                   | 35205                 | 2709    |                                |                                       | 14995                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 0500                | 1000                   | 3518                  | 2711    | 0010683                        | 0743                                  | 14988                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 0600                | 0844                   | 3507                  | 2728    | 0009159                        | 0842                                  | 14945                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
| 126                        |              | OBS                | 0610                | 0830                   | 35060                 | 2730    |                                |                                       | 14942                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 0700                | 0726                   | 3506                  | 2745    | 0007607                        | 0926                                  | 14917                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
| 126                        |              | OBS                | 0732                | 0693                   | 35052                 | 2749    |                                |                                       | 14909                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 0800                | 0634                   | 3504                  | 2756    | 0006557                        | 0997                                  | 14897                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 0900                | 0562                   | 3502                  | 2764    | 0005824                        | 1059                                  | 14884                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
| 126                        |              | OBS                | 0985                | 0513                   | 35004                 | 2768    |                                |                                       | 14878                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 1000                | 0507                   | 3500                  | 2769    | 0005348                        | 1114                                  | 14877                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 1100                | 0474                   | 3499                  | 2772    | 0005131                        | 1167                                  | 14881                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 1200                | 0447                   | 3497                  | 2774    | 0004977                        | 1217                                  | 14887                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
| 126                        |              | OBS                | 1231                | 0440                   | 34970                 | 2774    |                                |                                       | 14889                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 1300                | 0430                   | 3496                  | 2775    | 0004929                        | 1267                                  | 14896                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 1400                | 0417                   | 3496                  | 2775    | 0004903                        | 1316                                  | 14908                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 1500                | 0405                   | 3495                  | 2776    | 0004884                        | 1365                                  | 14919                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
| 126                        |              | OBS                | 1539                | 0401                   | 34949                 | 2777    |                                |                                       | 14924                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 1750                | 0382                   | 3495                  | 2779    | 0004793                        | 1486                                  | 14952                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
| 126                        |              | OBS                | 1862                | 0374                   | 34949                 | 2779    |                                |                                       | 14967                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |

| REFERENCE<br>SHIP<br>CODE  | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | WAVE<br>DIRECTION      | MARSDEN<br>SQUARE     |         | STATION TIME<br>(GMT)          |                                       | YEAR                   | ORIGINATOR'S        |                                 | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPLE   | WAVE<br>OBSERVATIONS            |                                   |     | WEA-<br>THER<br>CODE | CLOUD<br>CODES |     | NDDC<br>STATION<br>NUMBER |
|----------------------------|--------------|--------------------|---------------------|------------------------|-----------------------|---------|--------------------------------|---------------------------------------|------------------------|---------------------|---------------------------------|-----------------------|---------------------------------|---------------------------------|-----------------------------------|-----|----------------------|----------------|-----|---------------------------|
|                            |              |                    |                     |                        | 10°                   | 1°      | MO                             | DAY                                   |                        | CRUISE<br>NO.       | STATION<br>NUMBER               |                       |                                 | DIR                             | HGT                               | PER |                      | SEA            | TPN |                           |
| 311176                     | EN           | 44013N             | 041071W             | 149                    | 41                    | 10      | 17                             | 133                                   | 1967                   | 012                 | 006                             | 4755                  |                                 | 02                              | 1                                 | 3   |                      | 8              | 4   | 0006                      |
|                            |              |                    |                     |                        |                       |         |                                |                                       |                        |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              |                    |                     | WATER<br>COLOR<br>CODE | WIND<br>TRANS.<br>NO. |         | DIR.                           | SPEED<br>OF<br>FORCE                  | BARO-<br>METER<br>(mb) | AIR TEMP. °C        |                                 | VOL.<br>CODE          | NO.<br>OBS.<br>DEPTHS           | SPECIAL<br>OBSERVATIONS         |                                   |     |                      |                |     |                           |
|                            |              |                    |                     |                        |                       |         |                                |                                       |                        |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              |                    |                     | 01                     | 02                    |         | 02                             | S12                                   | 210                    | 150                 |                                 | 111                   | 7                               | 14                              |                                   |     |                      |                |     |                           |
|                            |              |                    |                     |                        |                       |         |                                |                                       |                        |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
| MESSAGE<br>TIME<br>HR 1/10 | CASST<br>NO. | CARD<br>TYPE       | DEPTH (m)           | T °C                   | S ‰                   | SIGMA-T | SPECIFIC VOLUME<br>ANOMALY-20° | Σ Δ D<br>DYN. M.<br>X 10 <sup>3</sup> | SOUND<br>VELOCITY      | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - dl/l | TOTAL-P<br>μg - dl/l  | NO <sub>3</sub> -N<br>μg - dl/l | NO <sub>3</sub> -N<br>μg - dl/l | SiO <sub>4</sub> -Si<br>μg - dl/l | pH  | S<br>°C              |                |     |                           |
|                            |              | STD                | 0000                | 1946                   | 3583                  | 2556    | 0024391                        | 0000                                  | 15216                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
| 133                        |              | OBS                | 0000                | 1446                   | 35631                 | 2556    |                                |                                       | 15216                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 0010                | 1947                   | 3583                  | 2555    | 0024445                        | 0024                                  | 15218                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 0020                | 1949                   | 3563                  | 2555    | 0024470                        | 0048                                  | 15220                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
| 133                        |              | OBS                | 0025                | 1948                   | 35634                 | 2555    |                                |                                       | 15221                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 0030                | 1946                   | 3583                  | 2555    | 0024526                        | 0073                                  | 15222                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 0050                | 1948                   | 3583                  | 2555    | 0024597                        | 0122                                  | 15225                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
| 133                        |              | OBS                | 0050                | 1948                   | 35834                 | 2555    |                                |                                       | 15225                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 0075                | 1775                   | 3595                  | 2607    | 0019707                        | 0177                                  | 15181                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 0100                | 1651                   | 3602                  | 2643    | 0016423                        | 0223                                  | 15149                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
| 133                        |              | OBS                | 0101                | 1647                   | 36016                 | 2644    |                                |                                       | 15148                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 0125                | 1540                   | 3603                  | 2658    | 0015073                        | 0262                                  | 15135                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 0150                | 1540                   | 3603                  | 2668    | 0014102                        | 0299                                  | 15126                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
| 133                        |              | OBS                | 0150                | 1546                   | 36029                 | 2668    |                                |                                       | 15126                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 0200                | 1510                   | 3600                  | 2674    | 0013747                        | 0306                                  | 15122                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
| 133                        |              | OBS                | 0203                | 1507                   | 36000                 | 2674    |                                |                                       | 15122                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 0250                | 1425                   | 3586                  | 2682    | 0013155                        | 0436                                  | 15102                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 0300                | 1358                   | 3576                  | 2688    | 0012673                        | 0500                                  | 15087                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
| 133                        |              | OBS                | 0302                | 1356                   | 35754                 | 2683    |                                |                                       | 15036                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 0400                | 1288                   | 3569                  | 2697    | 0012084                        | 0624                                  | 15079                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
| 133                        |              | OBS                | 0402                | 1265                   | 35641                 | 2697    |                                |                                       | 15078                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 0500                | 1054                   | 3530                  | 2710    | 0010502                        | 0739                                  | 15011                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
| 133                        |              | OBS                | 0507                | 1046                   | 35278                 | 2711    |                                |                                       | 15007                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 0600                | 0904                   | 3518                  | 2727    | 0009309                        | 0840                                  | 14970                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
| 133                        |              | OBS                | 0603                | 0900                   | 35177                 | 2728    |                                |                                       | 14968                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 0700                | 0750                   | 3507                  | 2743    | 0007816                        | 0926                                  | 14930                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 0800                | 0641                   | 3504                  | 2755    | 0005070                        | 0998                                  | 14900                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
| 133                        |              | OBS                | 0803                | 0638                   | 35034                 | 2755    |                                |                                       | 14879                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 0900                | 0558                   | 3502                  | 2764    | 0005762                        | 1060                                  | 14883                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 1000                | 0490                   | 3501                  | 2771    | 0005127                        | 1115                                  | 14874                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
| 133                        |              | OBS                | 1003                | 0495                   | 35011                 | 2771    |                                |                                       | 14874                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 1100                | 0471                   | 3501                  | 2774    | 0004701                        | 1165                                  | 14860                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 1200                | 0449                   | 3501                  | 2776    | 0004718                        | 1213                                  | 14868                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
| 133                        |              | OBS                | 1224                | 0440                   | 35012                 | 2776    |                                |                                       | 14863                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 1300                | 0431                   | 3501                  | 2776    | 0004605                        | 1260                                  | 14837                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 1400                | 0416                   | 3500                  | 2779    | 0004574                        | 1300                                  | 14798                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
|                            |              | STD                | 1500                | 0404                   | 3498                  | 2779    | 0004625                        | 1352                                  | 14759                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |
| 133                        |              | OBS                | 1510                | 0403                   | 34991                 | 2779    |                                |                                       | 14721                  |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |     |                           |



TABLE III.—Continued

| REFERENCE               |          | SNIP CODE | LATITUDE  | LONGITUDE | MARSEEN SQUARE | STATION TIME (GMT) |                            |                              |                | YEAR                | ORIGINATOR'S                 |                   | DEPTH TO BOTTOM              | MAX. DEPTH                   | WAVE OBSERVATIONS              |    |          |            | WEATHER CODE | CLOUD          |         | NDOC STATION NUMBER |     |     |      |
|-------------------------|----------|-----------|-----------|-----------|----------------|--------------------|----------------------------|------------------------------|----------------|---------------------|------------------------------|-------------------|------------------------------|------------------------------|--------------------------------|----|----------|------------|--------------|----------------|---------|---------------------|-----|-----|------|
| CERT CODE               | ID. NO.  |           |           |           |                | " / 10"            | " / 10"                    | " / 10"                      | 18"            |                     | 1"                           | MO                |                              |                              | DAY                            | HR | MIN      | CHUICE NO. |              | STATION NUMBER | SAMPLES |                     | DR. | HOT | FEET |
| 311176                  | EN       |           | 4403 N    | 04350 W   |                | 149                | 60                         | 10                           | 20             | 238                 | 1967                         | 012               | 008                          |                              | 479                            |    | 27       | 1          |              |                |         | 0                   | 1   |     | 0008 |
|                         |          |           |           |           |                | WATER              |                            | WIND                         |                | AIR TEMP. °C        |                              |                   |                              |                              |                                |    |          |            |              |                |         |                     |     |     |      |
|                         |          |           |           |           |                | COLOR CODE         | TRANS. (m)                 | DIR.                         | SPEED (kts)    | BARO-METER (mb)     | DRY BULB                     | WET BULB          | VIL CODE                     | NO. OBS. DEPTHS              | SPECIAL OBSERVATIONS           |    |          |            |              |                |         |                     |     |     |      |
|                         |          |           |           |           |                | 04                 |                            | 27                           | 509            | 308                 | 18.9                         | 17.8              | 7                            | 13                           |                                |    |          |            |              |                |         |                     |     |     |      |
| MESSAGE TIME OF HR / 10 | CAST NO. | CARD TYPE | DEPTH (m) | T °C      | S ‰            | SIGMA-T            | SPECIFIC VOLUME ANDWAT-300 | S Δ D OYN. x 10 <sup>3</sup> | SOUND VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P µg - ml/l | TOTAL-P µg - ml/l | NO <sub>2</sub> -N µg - dl/l | NO <sub>3</sub> -N µg - ml/l | SIO <sub>4</sub> -Si µg - dl/l | pH | TEMP. °C |            |              |                |         |                     |     |     |      |
| 238                     | 085      | STD       | 0000      | 1951      | 3601           | 2568               | 0023185                    | 0000                         | 15220          |                     |                              |                   |                              |                              |                                |    |          |            |              |                |         |                     |     |     |      |
|                         |          | STD       | 0000      | 1951      | 36014          | 2568               |                            |                              | 15220          |                     |                              |                   |                              |                              |                                |    |          |            |              |                |         |                     |     |     |      |
|                         |          | STD       | 0010      | 1951      | 3601           | 2568               | 0023222                    | 0023                         | 15221          |                     |                              |                   |                              |                              |                                |    |          |            |              |                |         |                     |     |     |      |
|                         |          | STD       | 0020      | 1950      | 3601           | 2568               | 0023248                    | 0046                         | 15223          |                     |                              |                   |                              |                              |                                |    |          |            |              |                |         |                     |     |     |      |
| 239                     | 085      | STD       | 0025      | 1950      | 36014          | 2568               |                            |                              | 15224          |                     |                              |                   |                              |                              |                                |    |          |            |              |                |         |                     |     |     |      |
|                         |          | STD       | 0030      | 1949      | 3602           | 2569               | 0023203                    | 0069                         | 15224          |                     |                              |                   |                              |                              |                                |    |          |            |              |                |         |                     |     |     |      |
|                         |          | STD       | 0050      | 1940      | 3605           | 2572               | 0023021                    | 0115                         | 15227          |                     |                              |                   |                              |                              |                                |    |          |            |              |                |         |                     |     |     |      |
|                         |          | STD       | 0051      | 1946      | 36047          | 2572               |                            |                              | 15227          |                     |                              |                   |                              |                              |                                |    |          |            |              |                |         |                     |     |     |      |
| 238                     | 085      | STD       | 0075      | 1847      | 3628           | 2615               | 0019000                    | 0168                         | 15206          |                     |                              |                   |                              |                              |                                |    |          |            |              |                |         |                     |     |     |      |
|                         |          | STD       | 0100      | 1775      | 3642           | 2544               | 0016339                    | 0212                         | 15191          |                     |                              |                   |                              |                              |                                |    |          |            |              |                |         |                     |     |     |      |
|                         |          | STD       | 0102      | 1771      | 36430          | 2646               |                            |                              | 15190          |                     |                              |                   |                              |                              |                                |    |          |            |              |                |         |                     |     |     |      |
|                         |          | STD       | 0125      | 1760      | 3643           | 2548               | 0016015                    | 0253                         | 15191          |                     |                              |                   |                              |                              |                                |    |          |            |              |                |         |                     |     |     |      |
| 238                     | 085      | STD       | 0150      | 1737      | 3640           | 2652               | 0015771                    | 0292                         | 15188          |                     |                              |                   |                              |                              |                                |    |          |            |              |                |         |                     |     |     |      |
|                         |          | STD       | 0155      | 1731      | 36391          | 2652               |                            |                              | 15187          |                     |                              |                   |                              |                              |                                |    |          |            |              |                |         |                     |     |     |      |
|                         |          | STD       | 0200      | 1656      | 3626           | 2660               | 0015103                    | 0369                         | 15170          |                     |                              |                   |                              |                              |                                |    |          |            |              |                |         |                     |     |     |      |
|                         |          | STD       | 0207      | 1644      | 36238          | 2661               |                            |                              | 15168          |                     |                              |                   |                              |                              |                                |    |          |            |              |                |         |                     |     |     |      |
| 239                     | 085      | STD       | 0250      | 1549      | 3606           | 2609               | 0014350                    | 0443                         | 15143          |                     |                              |                   |                              |                              |                                |    |          |            |              |                |         |                     |     |     |      |
|                         |          | STD       | 0300      | 1457      | 3589           | 2677               | 0013721                    | 0513                         | 15121          |                     |                              |                   |                              |                              |                                |    |          |            |              |                |         |                     |     |     |      |
|                         |          | STD       | 0309      | 1443      | 35871          | 2679               |                            |                              | 15117          |                     |                              |                   |                              |                              |                                |    |          |            |              |                |         |                     |     |     |      |
|                         |          | STD       | 0400      | 1342      | 3574           | 2690               | 0012769                    | 0646                         | 15097          |                     |                              |                   |                              |                              |                                |    |          |            |              |                |         |                     |     |     |      |
| 239                     | 085      | STD       | 0413      | 1327      | 35719          | 2691               |                            |                              | 15094          |                     |                              |                   |                              |                              |                                |    |          |            |              |                |         |                     |     |     |      |
|                         |          | STD       | 0500      | 1236      | 3553           | 2700               | 0012008                    | 0770                         | 15076          |                     |                              |                   |                              |                              |                                |    |          |            |              |                |         |                     |     |     |      |
|                         |          | STD       | 0520      | 1203      | 35544          | 2702               |                            |                              | 15068          |                     |                              |                   |                              |                              |                                |    |          |            |              |                |         |                     |     |     |      |
|                         |          | STD       | 0600      | 1017      | 3527           | 2715               | 0010595                    | 0883                         | 15012          |                     |                              |                   |                              |                              |                                |    |          |            |              |                |         |                     |     |     |      |
| 238                     | 085      | STD       | 0613      | 0980      | 35217          | 2717               |                            |                              | 15001          |                     |                              |                   |                              |                              |                                |    |          |            |              |                |         |                     |     |     |      |
|                         |          | STD       | 0700      | 0841      | 3510           | 2731               | 0007036                    | 0981                         | 14961          |                     |                              |                   |                              |                              |                                |    |          |            |              |                |         |                     |     |     |      |
|                         |          | STD       | 0800      | 0707      | 3502           | 2745               | 0007736                    | 1065                         | 14925          |                     |                              |                   |                              |                              |                                |    |          |            |              |                |         |                     |     |     |      |
|                         |          | STD       | 0819      | 0686      | 35013          | 2747               |                            |                              | 14920          |                     |                              |                   |                              |                              |                                |    |          |            |              |                |         |                     |     |     |      |
| 239                     | 085      | STD       | 0900      | 0630      | 3505           | 2756               | 0006532                    | 1136                         | 14912          |                     |                              |                   |                              |                              |                                |    |          |            |              |                |         |                     |     |     |      |
|                         |          | STD       | 1000      | 0559      | 3507           | 2767               | 0005629                    | 1197                         | 14904          |                     |                              |                   |                              |                              |                                |    |          |            |              |                |         |                     |     |     |      |
|                         |          | STD       | 1026      | 0552      | 35375          | 2769               |                            |                              | 14902          |                     |                              |                   |                              |                              |                                |    |          |            |              |                |         |                     |     |     |      |
|                         |          | STD       | 1100      | 0514      | 3507           | 2773               | 0005072                    | 1250                         | 14899          |                     |                              |                   |                              |                              |                                |    |          |            |              |                |         |                     |     |     |      |
| 238                     | 085      | STD       | 1200      | 0467      | 3503           | 2776               | 0004834                    | 1300                         | 14896          |                     |                              |                   |                              |                              |                                |    |          |            |              |                |         |                     |     |     |      |
|                         |          | STD       | 1229      | 0439      | 34983          | 2775               |                            |                              | 14895          |                     |                              |                   |                              |                              |                                |    |          |            |              |                |         |                     |     |     |      |
|                         |          | STD       | 1250      | 0439      | 34983          | 2775               |                            |                              | 14895          |                     |                              |                   |                              |                              |                                |    |          |            |              |                |         |                     |     |     |      |
|                         |          | STD       | 1259      | 0439      | 34983          | 2775               |                            |                              | 14895          |                     |                              |                   |                              |                              |                                |    |          |            |              |                |         |                     |     |     |      |



TABLE III.—Continued

| REFERENCE                             |          | SHIP CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | OBS. DATE<br>DD-MN-YR | MARSden SQUARE |   | STATION TIME (GMT)         |                | YEAR                | ORIGINATOR'S                    |                      | DEPTH TO<br>BOTTOM              | MAX. DEPTH<br>OF<br>SAMPLE      | WAVE OBSERVATIONS                 |    |     | WEATHER<br>CODE | CLOUD CODES |     | NODC<br>STATION<br>NUMBER |      |     |  |  |
|---------------------------------------|----------|-----------|--------------------|---------------------|-----------------------|----------------|---|----------------------------|----------------|---------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|----|-----|-----------------|-------------|-----|---------------------------|------|-----|--|--|
| CITY<br>CODE                          | ID. NO.  |           |                    |                     |                       | 10"            | 1"  | MO                         | DAY            |                     | HR. 1/10                        | CRUISE<br>NO.        |                                 |                                 | STATION<br>NUMBER                 | DR | HGT |                 | PER         | SEA |                           | TYPE | AMT |  |  |
| 311170                                | EN       |           | 4401 N             | 04102 W             | 1949                  | 4              | 10  | 12                         | 12             | 1977                | 012                             | 009                  | 4840                            | 22                              | 2                                 | 3  |     |                 | 8           | 5   |                           | 0009 |     |  |  |
|                                       |          |           |                    | WATER               |                       | WIND           |   | BARO-METER (mm)            |                | AIR TEMP. °C        |                                 | NO. OF VIL CODES     |                                 | SPECIAL OBSERVATIONS            |                                   |    |     |                 |             |     |                           |      |     |  |  |
|                                       |          |           |                    | COLOR CODE          |                       | TRANS. (m)     |   | DR. SPEED OR FORCE         |                | DRY BULB            |                                 | WET BULB             |                                 | VIL CODE                        |                                   |    |     |                 |             |     |                           |      |     |  |  |
|                                       |          |           |                    | 04                  |                       | 22             |   | 517                        |                | 305                 |                                 | 194                  |                                 | 183                             |                                   | 7  |     | 13              |             |     |                           |      |     |  |  |
| MESSAGE NO.<br>TIME OF DAY<br>HR 1/10 | CASE NO. | CARD TYPE | DEPTH (m)          | T °C                | S ‰                   | SIGMA-T        | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> | Σ Δ D<br>± 10 <sup>5</sup> | SOUND VELOCITY | O <sub>2</sub> ml/l | PO <sub>2</sub> -P<br>µg - ml/l | TOTAL-P<br>µg - ml/l | NO <sub>2</sub> -N<br>µg - ml/l | NO <sub>3</sub> -N<br>µg - ml/l | SiO <sub>2</sub> -Si<br>µg - ml/l | pH |     |                 |             |     |                           |      |     |  |  |
| 125                                   |          | STD       | 0000               | 1947                | 3602                  | 2570           | 0023022                                   | 0000                       | 15219          |                     |                                 |                      |                                 |                                 |                                   |    |     |                 |             |     |                           |      |     |  |  |
|                                       |          | STD       | 0003               | 1947                | 36023                 | 2570           |   |                            | 15219          |                     |                                 |                      |                                 |                                 |                                   |    |     |                 |             |     |                           |      |     |  |  |
|                                       |          | STD       | 0010               | 1946                | 3602                  | 2570           | 0023049                                   | 0023                       | 15220          |                     |                                 |                      |                                 |                                 |                                   |    |     |                 |             |     |                           |      |     |  |  |
| 125                                   |          | STD       | 0018               | 1946                | 36019                 | 2570           |   |                            | 15221          |                     |                                 |                      |                                 |                                 |                                   |    |     |                 |             |     |                           |      |     |  |  |
|                                       |          | STD       | 0020               | 1946                | 3602                  | 2570           | 0023085                                   | 0046                       | 15222          |                     |                                 |                      |                                 |                                 |                                   |    |     |                 |             |     |                           |      |     |  |  |
|                                       |          | STD       | 0030               | 1947                | 3603                  | 2571           | 0023058                                   | 0069                       | 15224          |                     |                                 |                      |                                 |                                 |                                   |    |     |                 |             |     |                           |      |     |  |  |
| 125                                   |          | DRS       | 0035               | 1948                | 36041                 | 2571           |   |                            | 15225          |                     |                                 |                      |                                 |                                 |                                   |    |     |                 |             |     |                           |      |     |  |  |
|                                       |          | STD       | 0050               | 1912                | 3622                  | 2594           | 0020918                                   | 0113                       | 15219          |                     |                                 |                      |                                 |                                 |                                   |    |     |                 |             |     |                           |      |     |  |  |
|                                       |          | DRS       | 0071               | 1862                | 36381                 | 2619           |   |                            | 15211          |                     |                                 |                      |                                 |                                 |                                   |    |     |                 |             |     |                           |      |     |  |  |
| 125                                   |          | STD       | 0075               | 1851                | 3639                  | 2622           | 0018304                                   | 0162                       | 15208          |                     |                                 |                      |                                 |                                 |                                   |    |     |                 |             |     |                           |      |     |  |  |
|                                       |          | STD       | 0100               | 1752                | 3642                  | 2639           | 0016775                                   | 0206                       | 15196          |                     |                                 |                      |                                 |                                 |                                   |    |     |                 |             |     |                           |      |     |  |  |
|                                       |          | DRS       | 0111               | 1771                | 36420                 | 2645           |   |                            | 15192          |                     |                                 |                      |                                 |                                 |                                   |    |     |                 |             |     |                           |      |     |  |  |
| 125                                   |          | STD       | 0125               | 1757                | 3642                  | 2648           | 0016033                                   | 0247                       | 15190          |                     |                                 |                      |                                 |                                 |                                   |    |     |                 |             |     |                           |      |     |  |  |
|                                       |          | STD       | 0150               | 1729                | 3640                  | 2653           | 0015597                                   | 0286                       | 15186          |                     |                                 |                      |                                 |                                 |                                   |    |     |                 |             |     |                           |      |     |  |  |
|                                       |          | DRS       | T0155              | 1723                | 36393                 | 2654           |   |                            | 15185          |                     |                                 |                      |                                 |                                 |                                   |    |     |                 |             |     |                           |      |     |  |  |
| 125                                   |          | STD       | 0200               | 1667                | 3630                  | 2661           | 0015061                                   | 0363                       | 15174          |                     |                                 |                      |                                 |                                 |                                   |    |     |                 |             |     |                           |      |     |  |  |
|                                       |          | STD       | 0250               | 1594                | 3617                  | 2668           | 0014494                                   | 0437                       | 15159          |                     |                                 |                      |                                 |                                 |                                   |    |     |                 |             |     |                           |      |     |  |  |
|                                       |          | DRS       | 0272               | 1525                | 36053                 | 2674           |   |                            | 15143          |                     |                                 |                      |                                 |                                 |                                   |    |     |                 |             |     |                           |      |     |  |  |
| 125                                   |          | STD       | 0300               | 1507                | 3602                  | 2676           | 0013881                                   | 0508                       | 15138          |                     |                                 |                      |                                 |                                 |                                   |    |     |                 |             |     |                           |      |     |  |  |
|                                       |          | DRS       | T0368              | 1380                | 35793                 | 2680           |   |                            | 15105          |                     |                                 |                      |                                 |                                 |                                   |    |     |                 |             |     |                           |      |     |  |  |
|                                       |          | STD       | 0400               | 1347                | 3575                  | 2690           | 0012773                                   | 0641                       | 15100          |                     |                                 |                      |                                 |                                 |                                   |    |     |                 |             |     |                           |      |     |  |  |
| 125                                   |          | DRS       | 0443               | 1298                | 35690                 | 2695           |   |                            | 15089          |                     |                                 |                      |                                 |                                 |                                   |    |     |                 |             |     |                           |      |     |  |  |
|                                       |          | STD       | 0500               | 1221                | 3557                  | 2701           | 0011877                                   | 0764                       | 15071          |                     |                                 |                      |                                 |                                 |                                   |    |     |                 |             |     |                           |      |     |  |  |
|                                       |          | DRS       | T0593              | 1073                | 35380                 | 2714           |   |                            | 15032          |                     |                                 |                      |                                 |                                 |                                   |    |     |                 |             |     |                           |      |     |  |  |
| 125                                   |          | STD       | 0600               | 1057                | 3536                  | 2715           | 0010606                                   | 0877                       | 15028          |                     |                                 |                      |                                 |                                 |                                   |    |     |                 |             |     |                           |      |     |  |  |
|                                       |          | STD       | 0700               | 0854                | 3515                  | 2733           | 0008886                                   | 0974                       | 14967          |                     |                                 |                      |                                 |                                 |                                   |    |     |                 |             |     |                           |      |     |  |  |
|                                       |          | DRS       | 0735               | 0794                | 35104                 | 2736           |   |                            | 14949          |                     |                                 |                      |                                 |                                 |                                   |    |     |                 |             |     |                           |      |     |  |  |
| 125                                   |          | STD       | 0800               | 0699                | 3508                  | 2750           | 0007215                                   | 1055                       | 14923          |                     |                                 |                      |                                 |                                 |                                   |    |     |                 |             |     |                           |      |     |  |  |
|                                       |          | DRS       | T0899              | 0591                | 35050                 | 2762           |   |                            | 14896          |                     |                                 |                      |                                 |                                 |                                   |    |     |                 |             |     |                           |      |     |  |  |
|                                       |          | STD       | 0900               | 0530                | 3505                  | 2763           | 0005989                                   | 1121                       | 14896          |                     |                                 |                      |                                 |                                 |                                   |    |     |                 |             |     |                           |      |     |  |  |
| 125                                   |          | STD       | 1000               | 0524                | 3504                  | 2770           | 0005294                                   | 1177                       | 14886          |                     |                                 |                      |                                 |                                 |                                   |    |     |                 |             |     |                           |      |     |  |  |
|                                       |          | DRS       | T1086              | 0503                | 35040                 | 2772           |   |                            | 14892          |                     |                                 |                      |                                 |                                 |                                   |    |     |                 |             |     |                           |      |     |  |  |

| REFERENCE                        |             | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | STATION<br>NO. | MARSEN<br>SQUARE | STATION TIME<br>(GMT)                          |                        | YEAR              | ORIGINATOR'S<br>CRUISE NO. STATION NUMBER |                                 | DEPTH TO<br>BOTTOM   | MAL. DEPTH<br>OF SAMPLE         | WAVE<br>OBSERVATIONS            |                                    |     | WEATHER<br>CODE | CLOUD<br>CODE |   |     | NODC<br>STATION<br>NUMBER |      |
|----------------------------------|-------------|--------------|--------------------|---------------------|----------------|------------------|--|------------------------|-------------------|---|---------------------------------|----------------------|---------------------------------|---------------------------------|------------------------------------|-----|-----------------|---------------|---|-----|---------------------------|------|
| CTRY<br>CODE                     | ID.<br>NO.  |              |                    |                     | 10"            | 1"               | MO   | DAT                    | HR./10            |   |                                 |                      |                                 | DIR                             | HGT                                | PRI | SIA             |               |   | TYP | AMT                       |      |
| 311176                           | EN          | 4401 N       | 04049 W            | 149                 | 40             | 10               | 22   | 135                    | 1957              | 012                                       | 010                             | 4946                 |                                 | 24                              | 2                                  | 3   |                 |               | 8 | 3   |                           | 0010 |
|                                  |             | WATER        |                    | WIND                |                | BARO-METER       |  | AIR TEMP °C            |                   | NO. DRS.                                  |                                 | VIL CODE             |                                 | SPECIAL OBSERVATIONS            |                                    |     |                 |               |   |     |                           |      |
|                                  |             | COLOR CODE   | TRANS. INI         | DIR.                | SPEED OR FORCE |                  |  | DRY BULB               | WET BULB          |   |                                 | DEPTHS               |                                 |                                 |                                    |     |                 |               |   |     |                           |      |
|                                  |             | 04           | 24                 | 514                 | 254            | 200              | 194  | 7                      | 14                |   |                                 |                      |                                 |                                 |                                    |     |                 |               |   |     |                           |      |
| MESSAGING<br>TIME OF<br>HR. 1/10 | CAST<br>NO. | CARD<br>TYPE | DEPTH M            | T °C                | S ‰            | SIGMA-T          | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> -t@P | S Δ ρ<br>DYN. W. @ 10° | SOUND<br>VELOCITY | O <sub>2</sub> ml/l                       | PO <sub>2</sub> -P<br>μg - dl/l | TOTAL-P<br>μg - dl/l | NO <sub>2</sub> -N<br>μg - dl/l | NO <sub>3</sub> -N<br>μg - dl/l | Si O <sub>4</sub> -Si<br>μg - dl/l | pH  |                 |               |   |     |                           |      |
|                                  | 135         | STD          | 0000               | 1947                | 3608           | 2574             | 0022596  | 0000                   | 15219             |   |                                 |                      |                                 |                                 |                                    |     |                 |               |   |     |                           |      |
|                                  |             | DS           | 0000               | 1947                | 3605.2         | 2574             |  |                        | 15219             |   |                                 |                      |                                 |                                 |                                    |     |                 |               |   |     |                           |      |
|                                  |             | STD          | 0010               | 1944                | 3608           | 2575             | 0022551  | 0022                   | 15220             |   |                                 |                      |                                 |                                 |                                    |     |                 |               |   |     |                           |      |
|                                  |             | STD          | 0020               | 1942                | 3608           | 2576             | 0022532  | 0045                   | 15221             |   |                                 |                      |                                 |                                 |                                    |     |                 |               |   |     |                           |      |
|                                  | 135         | DS           | 0024               | 1942                | 3608.5         | 2576             |  |                        | 15222             |   |                                 |                      |                                 |                                 |                                    |     |                 |               |   |     |                           |      |
|                                  |             | STD          | 0030               | 1943                | 3609           | 2576             | 0022541  | 0067                   | 15223             |   |                                 |                      |                                 |                                 |                                    |     |                 |               |   |     |                           |      |
|                                  | 135         | DS           | 0047               | 1944                | 3610.8         | 2577             |  |                        | 15227             |   |                                 |                      |                                 |                                 |                                    |     |                 |               |   |     |                           |      |
|                                  |             | STD          | 0050               | 1929                | 3612           | 2582             | 0022060  | 0112                   | 15223             |   |                                 |                      |                                 |                                 |                                    |     |                 |               |   |     |                           |      |
|                                  |             | STD          | 0075               | 1815                | 3619           | 2616             | 0018870  | 0163                   | 15196             |   |                                 |                      |                                 |                                 |                                    |     |                 |               |   |     |                           |      |
|                                  | 135         | DS           | 0091               | 1753                | 3621.2         | 2633             |  |                        | 15181             |   |                                 |                      |                                 |                                 |                                    |     |                 |               |   |     |                           |      |
|                                  |             | STD          | 0100               | 1719                | 3620           | 2641             | 0016628  | 0207                   | 15172             |   |                                 |                      |                                 |                                 |                                    |     |                 |               |   |     |                           |      |
|                                  |             | STD          | 0125               | 1645                | 3618           | 2656             | 0015217  | 0247                   | 15154             |   |                                 |                      |                                 |                                 |                                    |     |                 |               |   |     |                           |      |
|                                  | 135         | DS           | 0136               | 1622                | 3616.6         | 2661             |  |                        | 15148             |   |                                 |                      |                                 |                                 |                                    |     |                 |               |   |     |                           |      |
|                                  |             | STD          | 0150               | 1613                | 3616           | 2663             | 0014695  | 0285                   | 15148             |   |                                 |                      |                                 |                                 |                                    |     |                 |               |   |     |                           |      |
|                                  | 135         | DS           | T0182              | 1588                | 3613.5         | 2667             |  |                        | 15145             |   |                                 |                      |                                 |                                 |                                    |     |                 |               |   |     |                           |      |
|                                  |             | STD          | 0200               | 1569                | 3611           | 2669             | 0014264  | 0357                   | 15142             |   |                                 |                      |                                 |                                 |                                    |     |                 |               |   |     |                           |      |
|                                  |             | STD          | 0250               | 1512                | 3602           | 2675             | 0013812  | 0427                   | 15131             |   |                                 |                      |                                 |                                 |                                    |     |                 |               |   |     |                           |      |
|                                  | 135         | DS           | 0270               | 1437                | 3598.1         | 2677             |  |                        | 15126             |   |                                 |                      |                                 |                                 |                                    |     |                 |               |   |     |                           |      |
|                                  |             | STD          | 0300               | 1442                | 3590           | 2681             | 0013371  | 0495                   | 15116             |   |                                 |                      |                                 |                                 |                                    |     |                 |               |   |     |                           |      |
|                                  | 135         | DS           | 0357               | 1369                | 3577.6         | 2687             |  |                        | 15100             |   |                                 |                      |                                 |                                 |                                    |     |                 |               |   |     |                           |      |
|                                  |             | STD          | 0400               | 1335                | 3573           | 2691             | 0012674  | 0625                   | 15095             |   |                                 |                      |                                 |                                 |                                    |     |                 |               |   |     |                           |      |
|                                  | 135         | DS           | T0443              | 1295                | 3566.0         | 2695             |  |                        | 15068             |   |                                 |                      |                                 |                                 |                                    |     |                 |               |   |     |                           |      |
|                                  |             | STD          | 0500               | 1224                | 3556           | 2701             | 0011855  | 0748                   | 15072             |   |                                 |                      |                                 |                                 |                                    |     |                 |               |   |     |                           |      |
|                                  | 135         | DS           | 0528               | 1180                | 3552.5         | 2705             |  |                        | 15061             |   |                                 |                      |                                 |                                 |                                    |     |                 |               |   |     |                           |      |
|                                  |             | STD          | 0600               | 0977                | 3525           | 2721             | 0009993  | 0957                   | 14997             |   |                                 |                      |                                 |                                 |                                    |     |                 |               |   |     |                           |      |
|                                  | 135         | DS           | T0688              | 0783                | 3504.0         | 2734             |  |                        | 14938             |   |                                 |                      |                                 |                                 |                                    |     |                 |               |   |     |                           |      |
|                                  |             | STD          | 0700               | 0773                | 3504           | 2736             | 0008454  | 0949                   | 14935             |   |                                 |                      |                                 |                                 |                                    |     |                 |               |   |     |                           |      |
|                                  |             | STD          | 0800               | 0664                | 3502           | 2751             | 0007059  | 1027                   | 14908             |   |                                 |                      |                                 |                                 |                                    |     |                 |               |   |     |                           |      |
|                                  | 135         | DS           | 0865               | 0605                | 3502.0         | 2753             |  |                        | 14897             |   |                                 |                      |                                 |                                 |                                    |     |                 |               |   |     |                           |      |
|                                  |             | STD          | 0900               | 0593                | 3503           | 2761             | 0006163  | 1054                   | 14897             |   |                                 |                      |                                 |                                 |                                    |     |                 |               |   |     |                           |      |
|                                  |             | STD          | 1000               | 0548                | 3505           | 2768             | 0005539  | 1152                   | 14896             |   |                                 |                      |                                 |                                 |                                    |     |                 |               |   |     |                           |      |
|                                  | 135         | DS           | T1075              | 0517                | 3505.0         | 2772             |  |                        | 14896             |   |                                 |                      |                                 |                                 |                                    |     |                 |               |   |     |                           |      |
|                                  |             | STD          | 1100               | 0507                | 3505           | 2773             | 0005117  | 1205                   | 14896             |   |                                 |                      |                                 |                                 |                                    |     |                 |               |   |     |                           |      |
|                                  |             | STD          | 1200               | 0469                | 3503           | 2775             | 0004871  | 1255                   | 14897             |   |                                 |                      |                                 |                                 |                                    |     |                 |               |   |     |                           |      |
|                                  |             | STD          | 1300               | 0435                | 3499           | 2776             | 0004319  | 1304                   | 14898             |   |                                 |                      |                                 |                                 |                                    |     |                 |               |   |     |                           |      |
|                                  | 135         | DS           | T1308              | 0432                | 3498.2         | 2776             |  |                        | 14899             |   |                                 |                      |                                 |                                 |                                    |     |                 |               |   |     |                           |      |



TABLE III.—Continued

| REFERENCE               | SHIP<br>ID. NO. | SHIP<br>CODE | LATITUDE<br>1/10 | LONGITUDE<br>1/10 | DEPTH<br>M | MARSDEN<br>SQUARE<br>10' 1" | STATION TIME<br>GMT                       | YEAR                                  | ORIGINATOR'S      |                     | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLE | WAVE<br>OBSERVATIONS            |                                 |                                   | CLOUD<br>CODES       | NODC<br>STATION<br>NUMBER |
|-------------------------|-----------------|--------------|------------------|-------------------|------------|-----------------------------|---|---------------------------------------|-------------------|---------------------|---------------------------------|-------------------------------|---------------------------------|---------------------------------|-----------------------------------|----------------------|---------------------------|
|                         |                 |              |                  |                   |            |                             |   |                                       | CRUISE<br>NO.     | STATION<br>NUMBER   |                                 |                               | DIR.                            | HGT                             | PER                               |                      |                           |
| 311175                  | EN              |              | 4400 N           | 04057 W           | 149        | 40                          | 10 23 11d                                 | 1957                                  | 012               | 011                 | 4755                            |                               | 21                              | 3                               | 3                                 |                      | 0011                      |
|                         |                 |              |                  |                   |            |                             |   |                                       |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
|                         |                 |              |                  |                   |            | WATER                       |   | WIND                                  |                   | BARO-<br>METER      |                                 | AIR TEMP. °C                  |                                 | WIL CODE                        |                                   | NO. OBS. DEPTHS      |                           |
|                         |                 |              |                  |                   |            | COLOR CODE                  | TRANS. (m)                                | DIR.                                  | SPEED OR FORCE    | DRY BULB            | WET BULB                        | DRY BULB                      | WET BULB                        | WIL CODE                        | NO. OBS. DEPTHS                   | SPECIAL OBSERVATIONS |                           |
|                         |                 |              |                  |                   |            | 01                          |   | 21                                    | 526               | 112                 | 194                             | 199                           | 7                               | 13                              |                                   |                      |                           |
| MESSING TIME<br>HR 1/10 | CARD<br>NO.     | CARD<br>TYPE | DEPTH (m)        | T °C              | S ‰        | SIGMA-T                     | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> | Σ Δ D<br>DYN. M.<br>x 10 <sup>2</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>2</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l          | NO <sub>2</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH                   | CONT.                     |
|                         |                 | STO          | 0000             | 1868              | 3556       | 2555                        | 0024437                                   | 0030                                  | 15191             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
| 118                     | 085             | 0000         |                  | 1868              | 35562      | 2555                        |   |                                       | 15191             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
|                         | STO             | 0010         |                  | 1874              | 3561       | 2558                        | 0024227                                   | 0024                                  | 15195             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
|                         | STO             | 0020         |                  | 1879              | 3567       | 2561                        | 0023962                                   | 0048                                  | 15199             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
| 118                     | 085             | 0023         |                  | 1880              | 35692      | 2562                        |   |                                       | 15200             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
|                         | STO             | 0030         |                  | 1887              | 3574       | 2563                        | 0023744                                   | 0072                                  | 15203             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
| 118                     | 085             | 0040         |                  | 1887              | 35811      | 2569                        |   |                                       | 15206             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
|                         | STO             | 0050         |                  | 1855              | 3587       | 2589                        | 0021384                                   | 0117                                  | 15201             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
|                         | STO             | 0075         |                  | 1782              | 3623       | 2628                        | 0017809                                   | 0166                                  | 15187             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
| 118                     | 085             | 0081         |                  | 1766              | 36269      | 2634                        |   |                                       | 15184             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
|                         | STO             | 0100         |                  | 1721              | 3627       | 2645                        | 0016186                                   | 0208                                  | 15174             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
| 118                     | 085             | 0121         |                  |                   | 36272      |                             |   |                                       |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
|                         | STO             | 0125         |                  | 1666              | 3625       | 2658                        | 0015103                                   | 0248                                  | 15161             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
|                         | STO             | 0150         |                  | 1614              | 3616       | 2663                        | 0014695                                   | 0285                                  | 15148             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
| 118                     | 085             | T0160        |                  | 1594              | 36133      | 2665                        |   |                                       | 15143             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
|                         | STO             | 0200         |                  | 1548              | 3603       | 2673                        | 0013906                                   | 0356                                  | 15135             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
| 118                     | 085             | 0232         |                  |                   | 36034      |                             |   |                                       |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
|                         | STO             | 0250         |                  | 1486              | 3597       | 2677                        | 0013657                                   | 0425                                  | 15122             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
|                         | STO             | 0300         |                  | 1420              | 3582       | 2679                        | 0013505                                   | 0493                                  | 15108             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
| 118                     | 085             | 0302         |                  |                   | 35814      |                             |   |                                       |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
| 118                     | 085             | T0378        |                  | 1310              | 35703      | 2693                        |   |                                       | 15083             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
|                         | STO             | 0400         |                  | 1268              | 3563       | 2697                        | 0012052                                   | 0621                                  | 15071             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
|                         | STO             | 0500         |                  | 1099              | 3538       | 2711                        | 0010814                                   | 0735                                  | 15023             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
|                         | STO             | 0600         |                  | 0933              | 3521       | 2725                        | 0009538                                   | 0837                                  | 14991             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
| 118                     | 085             | T0622        |                  | 0902              | 35189      | 2728                        |   |                                       | 14972             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
|                         | STO             | 0700         |                  | 0803              | 3517       | 2742                        | 0007946                                   | 0924                                  | 14948             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
| 118                     | 085             | 0775         |                  | 0717              | 35143      | 2753                        |   |                                       | 14927             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
|                         | STO             | 0800         |                  | 0687              | 3512       | 2755                        | 0006895                                   | 0998                                  | 14919             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
|                         | STO             | 0900         |                  | 0584              | 3505       | 2764                        | 0005879                                   | 1060                                  | 14894             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
| 118                     | 085             | T0986        |                  | 0518              | 35013      | 2769                        |   |                                       | 14881             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
|                         | STO             | 1000         |                  | 0509              | 3501       | 2769                        | 0005290                                   | 1116                                  | 14879             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
|                         | STO             | 1100         |                  | 0463              | 3500       | 2774                        | 0004853                                   | 1167                                  | 14877             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
|                         | STO             | 1200         |                  | 0444              | 3499       | 2776                        | 0004773                                   | 1215                                  | 14886             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
| 118                     | 085             | T1232        |                  | 0444              | 34992      | 2775                        |   |                                       | 14891             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |

| REFERENCE               | SHIP<br>ID. NO. | SHIP<br>CODE | LATITUDE<br>1/10 | LONGITUDE<br>1/10 | DEPTH<br>M | MARSDEN<br>SQUARE<br>10' 1" | STATION TIME<br>GMT                       | YEAR                                  | ORIGINATOR'S      |                     | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLE | WAVE<br>OBSERVATIONS            |                                 |                                   | CLOUD<br>CODES       | NODC<br>STATION<br>NUMBER |
|-------------------------|-----------------|--------------|------------------|-------------------|------------|-----------------------------|---|---------------------------------------|-------------------|---------------------|---------------------------------|-------------------------------|---------------------------------|---------------------------------|-----------------------------------|----------------------|---------------------------|
|                         |                 |              |                  |                   |            |                             |   |                                       | CRUISE<br>NO.     | STATION<br>NUMBER   |                                 |                               | DIR.                            | HGT                             | PER                               |                      |                           |
| 311176                  | EN              |              | 4357 N           | 04057 W           | 149        | 30                          | 10 25 011                                 | 1957                                  | 012               | 012                 | 4755                            |                               | 01                              | 3                               | 3                                 |                      | 0012                      |
|                         |                 |              |                  |                   |            |                             |   |                                       |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
|                         |                 |              |                  |                   |            | WATER                       |   | WIND                                  |                   | BARO-<br>METER      |                                 | AIR TEMP. °C                  |                                 | WIL CODE                        |                                   | NO. OBS. DEPTHS      |                           |
|                         |                 |              |                  |                   |            | COLOR CODE                  | TRANS. (m)                                | DIR.                                  | SPEED OR FORCE    | DRY BULB            | WET BULB                        | DRY BULB                      | WET BULB                        | WIL CODE                        | NO. OBS. DEPTHS                   | SPECIAL OBSERVATIONS |                           |
|                         |                 |              |                  |                   |            | 04                          |   | 30                                    | 515               | 234                 | 133                             | 106                           | 7                               | 13                              |                                   |                      |                           |
| MESSING TIME<br>HR 1/10 | CARD<br>NO.     | CARD<br>TYPE | DEPTH (m)        | T °C              | S ‰        | SIGMA-T                     | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> | Σ Δ D<br>DYN. M.<br>x 10 <sup>2</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>2</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l          | NO <sub>2</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH                   | CONT.                     |
|                         |                 | STO          | 0000             | 1902              | 3607       | 2585                        | 0021553                                   | 0000                                  | 15207             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
| 011                     | 085             | 0000         |                  | 1902              | 36072      | 2585                        |   |                                       | 15207             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
|                         | STO             | 0010         |                  | 1904              | 3608       | 2585                        | 0021599                                   | 0021                                  | 15209             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
| 011                     | 085             | 0014         |                  | 1905              | 36082      | 2585                        |   |                                       | 15211             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
|                         | STO             | 0020         |                  | 1905              | 3608       | 2585                        | 0021634                                   | 0043                                  | 15211             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
|                         | STO             | 0030         |                  | 1904              | 3608       | 2585                        | 0021652                                   | 0064                                  | 15212             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
| 011                     | 085             | 0035         |                  | 1904              | 36082      | 2585                        |   |                                       | 15213             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
|                         | STO             | 0050         |                  | 1853              | 3625       | 2612                        | 0015239                                   | 0105                                  | 15203             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
| 011                     | 085             | 0066         |                  | 1809              | 36376      | 2636                        |   |                                       | 15195             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
|                         | STO             | 0075         |                  | 1738              | 3633       | 2637                        | 0016860                                   | 0150                                  | 15190             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
|                         | STO             | 0100         |                  | 1744              | 3636       | 2649                        | 0015873                                   | 0191                                  | 15182             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
| 011                     | 085             | 0111         |                  | 1730              | 36336      | 2652                        |   |                                       | 15179             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
|                         | STO             | 0125         |                  | 1727              | 3638       | 2653                        | 0015507                                   | 0231                                  | 15181             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
|                         | STO             | 0150         |                  | 1712              | 3638       | 2656                        | 0015332                                   | 0269                                  | 15180             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
| 011                     | 085             | T0156        |                  | 1707              | 36381      | 2657                        |   |                                       | 15180             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
|                         | STO             | 0200         |                  | 1641              | 3625       | 2663                        | 0014837                                   | 0345                                  | 15166             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
| 011                     | 085             | 0217         |                  | 1615              | 36202      | 2665                        |   |                                       | 15160             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
|                         | STO             | 0250         |                  | 1572              | 3613       | 2670                        | 0014350                                   | 0413                                  | 15151             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
| 011                     | 085             | 0252         |                  | 1522              | 36042      | 2674                        |   |                                       | 15140             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
|                         | STO             | 0300         |                  | 1453              | 3599       | 2677                        | 0013719                                   | 0488                                  | 15132             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
| 011                     | 085             | T0345        |                  | 1406              | 35546      | 2685                        |   |                                       | 15111             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
|                         | STO             | 0400         |                  | 1304              | 3566       | 2692                        | 0012572                                   | 0619                                  | 15084             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
| 011                     | 085             | 0403         |                  | 1259              | 35654      | 2692                        |   |                                       | 15083             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
|                         | STO             | 0500         |                  | 1130              | 3540       | 2705                        | 0011413                                   | 0739                                  | 15037             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
|                         | STO             | 0600         |                  | 0947              | 3520       | 2722                        | 0009888                                   | 0846                                  | 14986             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
| 011                     | 085             | 0625         |                  | 0503              | 35164      | 2720                        |   |                                       | 14973             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
|                         | STO             | 0700         |                  | 0462              | 3507       | 2741                        | 0009010                                   | 0935                                  | 14931             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
| 011                     | 085             | T0756        |                  | 0654              | 35022      | 2753                        |   |                                       | 14897             |                     |                                 |                               |                                 |                                 |                                   |                      |                           |
| 011                     | 085             | 0830         |                  | 0565              | 35061      | 27672                       |   |                                       |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                           |



TABLE III.—Continued

| REFERENCE               |          | SHIP CODE | LATITUDE  | LONGITUDE | MARS DEN SQUARE | STATION TIME |                                 |  | YEAR           | ORIGINATOR'S        |                                 | DEPTH TO BOTTOM      | MAX. DEPTH OF SWATH             | WAVE OBSERVATIONS               |                                   |      | WEATHER CODE | CLOUD CODES | NODC STATION NUMBER |
|-------------------------|----------|-----------|-----------|-----------|-----------------|--------------|---------------------------------|--|----------------|---------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|------|--------------|-------------|---------------------|
| CHIT CODE               | ID. NO.  |           |           |           |                 | 10°          | 11°                             | MO   |                | DAY                 | HR. 1/10                        |                      |                                 | CAUSE NO.                       | STATION NUMBER                    | DIR. |              |             |                     |
| 311176                  | EN       | 4348 N    | 04043 W   | 149       | 30              | 10           | 25                              | 207  | 1957           | 012 013             | 755                             |                      | 31                              | 2                               | 3                                 |      | 7 8          |             | 0013                |
|                         |          |           |           |           |                 |              |                                 |  |                |                     |                                 |                      |                                 |                                 |                                   |      |              |             |                     |
|                         |          | WATER     |           | WIND      |                 | BARO-METER   |                                 | AIR TEMP. °C   |                | VIS. CODE           | NO. OBS. DEPTHS                 | SPECIAL OBSERVATIONS |                                 |                                 |                                   |      |              |             |                     |
|                         |          | COLOR     | TRAN. (m) | DIR.      | SPEED (kts)     | (mmHg)       | DRY BULB                        | WET BULB   |                |                     |                                 |                      |                                 |                                 |                                   |      |              |             |                     |
|                         |          |           |           |           |                 | 32           | 513                             | 234  | 150            | 117                 | 7                               | 14                   |                                 |                                 |                                   |      |              |             |                     |
| MESSAGE TIME<br>HR 1/10 | CARD NO. | CARD TYPE | DEPTH (m) | T °C      | S ‰             | SIGMA-T      | SPECIFIC VOLUME<br>AND MALT-SIG | $\frac{\Delta \sigma}{\sigma}$<br>D.W. M.<br>x 10 <sup>3</sup> | SOUND VELOCITY | O <sub>2</sub> ml/l | PO <sub>2</sub> -P<br>µg - ml/l | TOTAL P<br>µg - ml/l | NO <sub>3</sub> -N<br>µg - ml/l | NO <sub>3</sub> -N<br>µg - ml/l | SiO <sub>4</sub> -Si<br>µg - ml/l | pH   | TC           |             |                     |
|                         |          | STD       | 0000      | 1907      | 3609            | 2535         | 0021581                         | 0000   | 15208          |                     |                                 |                      |                                 |                                 |                                   |      |              |             |                     |
| 207                     | 085      | STD       | 0010      | 1908      | 36066           | 2585         |                                 |  | 15208          |                     |                                 |                      |                                 |                                 |                                   |      |              |             |                     |
|                         |          | STD       | 0010      | 1908      | 3609            | 2585         | 0021544                         | 0021   | 15210          |                     |                                 |                      |                                 |                                 |                                   |      |              |             |                     |
|                         |          | STD       | 0020      | 1909      | 3609            | 2585         | 0021687                         | 0043   | 15212          |                     |                                 |                      |                                 |                                 |                                   |      |              |             |                     |
| 207                     | 085      | STD       | 0023      | 1909      | 36088           | 2585         |                                 |  | 15213          |                     |                                 |                      |                                 |                                 |                                   |      |              |             |                     |
|                         |          | STD       | 0030      | 1909      | 3508            | 2584         | 0021770                         | 0065   | 15214          |                     |                                 |                      |                                 |                                 |                                   |      |              |             |                     |
| 207                     | 085      | STD       | 0040      | 1908      | 36080           | 2584         |                                 |  | 15215          |                     |                                 |                      |                                 |                                 |                                   |      |              |             |                     |
|                         |          | STD       | 0050      | 1879      | 3612            | 2595         | 0020816                         | 0107   | 15209          |                     |                                 |                      |                                 |                                 |                                   |      |              |             |                     |
|                         |          | STD       | 0075      | 1804      | 3620            | 2620         | 0018543                         | 0156   | 15193          |                     |                                 |                      |                                 |                                 |                                   |      |              |             |                     |
| 207                     | 085      | STD       | 0031      | 1785      | 36211           | 2625         |                                 |  | 15188          |                     |                                 |                      |                                 |                                 |                                   |      |              |             |                     |
|                         |          | STD       | 0100      | 1715      | 3622            | 2643         | 0016420                         | 0200   | 15171          |                     |                                 |                      |                                 |                                 |                                   |      |              |             |                     |
| 207                     | 085      | STD       | 0121      | 1655      | 36228           | 2658         |                                 |  | 15157          |                     |                                 |                      |                                 |                                 |                                   |      |              |             |                     |
|                         |          | STD       | 0125      | 1648      | 3622            | 2659         | 0014973                         | 0239   | 15155          |                     |                                 |                      |                                 |                                 |                                   |      |              |             |                     |
|                         |          | STD       | 0150      | 1610      | 3617            | 2664         | 0014550                         | 0276   | 15147          |                     |                                 |                      |                                 |                                 |                                   |      |              |             |                     |
| 207                     | 085      | STD       | T0172     | 1582      | 36135           | 2668         |                                 |  | 15142          |                     |                                 |                      |                                 |                                 |                                   |      |              |             |                     |
|                         |          | STD       | 0200      | 1567      | 3612            | 2670         | 0014137                         | 0348   | 15141          |                     |                                 |                      |                                 |                                 |                                   |      |              |             |                     |
| 207                     | 085      | STD       | 0242      | 1527      | 36060           | 2675         |                                 |  | 15135          |                     |                                 |                      |                                 |                                 |                                   |      |              |             |                     |
|                         |          | STD       | 0250      | 1511      | 3603            | 2676         | 0013740                         | 0418   | 15131          |                     |                                 |                      |                                 |                                 |                                   |      |              |             |                     |
|                         |          | STD       | 0300      | 1425      | 3587            | 2682         | 0013210                         | 0485   | 15110          |                     |                                 |                      |                                 |                                 |                                   |      |              |             |                     |
| 207                     | 085      | STD       | J317      | 1402      | 35835           | 2685         |                                 |  | 15105          |                     |                                 |                      |                                 |                                 |                                   |      |              |             |                     |
| 207                     | 085      | STD       | T0396     | 1341      | 35731           | 2693         |                                 |  | 15097          |                     |                                 |                      |                                 |                                 |                                   |      |              |             |                     |
|                         |          | STD       | 0400      | 1339      | 3578            | 2693         | 0012417                         | 0613   | 15097          |                     |                                 |                      |                                 |                                 |                                   |      |              |             |                     |
| 207                     | 085      | STD       | 0468      | 1285      | 35707           | 2699         |                                 |  | 15089          |                     |                                 |                      |                                 |                                 |                                   |      |              |             |                     |
|                         |          | STD       | 0500      | 1229      | 3560            | 2702         | 0011787                         | 0734   | 15074          |                     |                                 |                      |                                 |                                 |                                   |      |              |             |                     |
|                         |          | STD       | 0600      | 1057      | 3534            | 2714         | 0010731                         | 0847   | 15027          |                     |                                 |                      |                                 |                                 |                                   |      |              |             |                     |
| 207                     | 085      | STD       | T0638     | 0992      | 35266           | 2719         |                                 |  | 15009          |                     |                                 |                      |                                 |                                 |                                   |      |              |             |                     |
|                         |          | STD       | 0700      | 0875      | 3517            | 2731         | 0009068                         | 0946   | 14975          |                     |                                 |                      |                                 |                                 |                                   |      |              |             |                     |
| 207                     | 085      | STD       | 0795      | 0725      | 35079           | 2746         |                                 |  | 14934          |                     |                                 |                      |                                 |                                 |                                   |      |              |             |                     |
|                         |          | STD       | 0800      | 0724      | 3508            | 2747         | 0007560                         | 1029   | 14933          |                     |                                 |                      |                                 |                                 |                                   |      |              |             |                     |
|                         |          | STD       | 0900      | 0626      | 3507            | 2760         | 0006328                         | 1098   | 14911          |                     |                                 |                      |                                 |                                 |                                   |      |              |             |                     |
| 207                     | 085      | STD       | T0948     | 0626      | 35064           | 2768         |                                 |  | 14897          |                     |                                 |                      |                                 |                                 |                                   |      |              |             |                     |
|                         |          | STD       | 1000      | 0551      | 3506            | 2769         | 0005474                         | 1157   | 14897          |                     |                                 |                      |                                 |                                 |                                   |      |              |             |                     |
|                         |          | STD       | 1100      | 0497      | 3505            | 2774         | 0004960                         | 1209   | 14892          |                     |                                 |                      |                                 |                                 |                                   |      |              |             |                     |
|                         |          | STD       | 1200      | 0466      | 3503            | 2776         | 0004783                         | 1258   | 14895          |                     |                                 |                      |                                 |                                 |                                   |      |              |             |                     |
| 207                     | 085      | STD       | T1224     | 0462      | 35029           | 2776         |                                 |  | 14898          |                     |                                 |                      |                                 |                                 |                                   |      |              |             |                     |



TABLE III.—Continued

| REFERENCE<br>CRUISE CODE   | SHIP<br>ID. NO. | SHIP<br>CODE | LATITUDE<br>° '"/10 | LONGITUDE<br>° '"/10 | WAVE<br>DIRECTION | MASS<br>SQUARE |   | STATION TIME<br>(GMT)    |                   |                     | YEAR                            | ORIGINATOR'S         |                                 | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>STATION    | WAVE<br>OBSERVATIONS |           |      | WEA-<br>THER<br>CODE | CLOUD<br>CODES |      | NODC<br>STATION<br>NUMBER |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
|--|-----------------|--------------|---------------------|----------------------|-------------------|----------------|---|--------------------------|-------------------|---------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|----------------------|-----------|------|----------------------|----------------|------|---------------------------|-------|--|--|--|------|--|------------|--|--------------|--|----------|--|----------------------|--|------------|----------|------|----------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----|----|-----|-----|-----|-----|---|----|--|--|--|--|--|--|
|  |                 |              |                     |                      |                   | 10'            | 1'  | MO                       | DAY               | HR./10              |                                 | CRUISE<br>NO.        | STATION<br>NUMBER               |                                 |                                   | DIR.                 | HGT.      | PER. |                      | TYPE           | AMT. |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
| 311176   | EN              |              | 4400 N              | 04105 W              |                   | 149            | 41  | 10                       | 26                | 148                 | 1957                            | 012                  | 014                             | 4792                            |                                   | 30                   | 1         | 4    |                      |                | 8    | 2                         | 0014  |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
| <table><tr><th colspan="4">WATER</th><th colspan="2">WIND</th><th colspan="2">BARO-METER</th><th colspan="2">AIR TEMP. °C</th><th colspan="2">VIL CODE</th><th colspan="2">SPECIAL OBSERVATIONS</th></tr><tr><th>COLOR CODE</th><th>TEMP. °C</th><th>DUR.</th><th>SPEED OR FORCE</th><th>DRY BULB</th><th>WET BULB</th><th>DRY BULB</th><th>WET BULB</th><th>DRY BULB</th><th>WET BULB</th><th>DRY BULB</th><th>WET BULB</th><th>DRY BULB</th><th>WET BULB</th></tr><tr><td>04</td><td>10</td><td>502</td><td>208</td><td>101</td><td>128</td><td>7</td><td>21</td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table> |                 |              |                     |                      |                   |                |   |                          |                   |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           | WATER |  |  |  | WIND |  | BARO-METER |  | AIR TEMP. °C |  | VIL CODE |  | SPECIAL OBSERVATIONS |  | COLOR CODE | TEMP. °C | DUR. | SPEED OR FORCE | DRY BULB | WET BULB | DRY BULB | WET BULB | DRY BULB | WET BULB | DRY BULB | WET BULB | DRY BULB | WET BULB | 04 | 10 | 502 | 208 | 101 | 128 | 7 | 21 |  |  |  |  |  |  |
| WATER  |                 |              |                     | WIND                 |                   | BARO-METER     |   | AIR TEMP. °C             |                   | VIL CODE            |                                 | SPECIAL OBSERVATIONS |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
| COLOR CODE   | TEMP. °C        | DUR.         | SPEED OR FORCE      | DRY BULB             | WET BULB          | DRY BULB       | WET BULB                                  | DRY BULB                 | WET BULB          | DRY BULB            | WET BULB                        | DRY BULB             | WET BULB                        |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
| 04   | 10              | 502          | 208                 | 101                  | 128               | 7              | 21  |                          |                   |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
| MESSING TIME<br>HR. 1/10   | CARD<br>NO.     | CARD<br>TYPE | DEPTH (m)           | T °C                 | S ‰               | SIGMA-T        | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> | Σ Δ σ<br>DYN. M.<br>1/10 | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>µg - ml/l | TOTAL-P<br>µg - ml/l | NO <sub>2</sub> -N<br>µg - ml/l | NO <sub>3</sub> -N<br>µg - ml/l | SiO <sub>2</sub> -Si<br>µg - ml/l | pH                   | S<br>CITY |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
| 148  |                 | STO          | 0000                | 1893                 | 3610              | 2590           | 0021110                                   | 0000                     | 15205             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
|  |                 | OB5          | 0000                | 1893                 | 36104             | 2590           |   |                          | 15205             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
|  |                 | STO          | 0010                | 1892                 | 3611              | 2591           | 0021082                                   | 0021                     | 15206             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
|  |                 | STO          | 0020                | 1891                 | 3611              | 2591           | 0021072                                   | 0042                     | 15207             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
| 148  |                 | OB5          | 0026                | 1890                 | 36112             | 2591           |   |                          | 15208             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
|  |                 | STO          | 0030                | 1890                 | 3611              | 2591           | 0021081                                   | 0063                     | 15209             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
|  |                 | STO          | 0050                | 1889                 | 3611              | 2592           | 0021124                                   | 0105                     | 15212             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
| 148  |                 | OB5          | 0051                | 1888                 | 36110             | 2592           |   |                          | 15212             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
|  |                 | STO          | 0075                | 1832                 | 3621              | 2614           | 0019144                                   | 0155                     | 15201             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
|  |                 | STO          | 0100                | 1766                 | 3625              | 2633           | 0017350                                   | 0201                     | 15187             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
| 148  |                 | OB5          | 0103                | 1756                 | 36255             | 2635           |   |                          | 15185             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
|  |                 | STO          | 0125                | 1677                 | 3620              | 2651           | 0015747                                   | 0242                     | 15164             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
|  |                 | STO          | 0150                | 1607                 | 3615              | 2663           | 0014621                                   | 0280                     | 15146             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
| 148  |                 | OB5          | 0156                | 1594                 | 36142             | 2666           |   |                          | 15143             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
|  |                 | STO          | 0200                | 1544                 | 3608              | 2672           | 0013904                                   | 0352                     | 15134             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
| 148  |                 | OB5          | T0207               | 1536                 | 36072             | 2673           |   |                          | 15132             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
|  |                 | STO          | 0250                | 1400                 | 3598              | 2679           | 0013457                                   | 0420                     | 15121             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
|  |                 | STO          | 0300                | 1423                 | 3589              | 2684           | 0013038                                   | 0486                     | 15109             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
| 148  |                 | OB5          | 0307                | 1415                 | 35878             | 2685           |   |                          | 15108             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
|  |                 | STO          | 0400                | 1330                 | 3577              | 2695           | 0012276                                   | 0613                     | 15094             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
| 148  |                 | OB5          | 0404                | 1326                 | 35768             | 2695           |   |                          | 15093             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
|  |                 | STO          | 0500                | 1242                 | 3565              | 2703           | 0011709                                   | 0733                     | 15079             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
| 148  |                 | OB5          | T0504               | 1235                 | 35638             | 2703           |   |                          | 15077             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
|  |                 | STO          | 0600                | 0978                 | 3519              | 2716           | 0010477                                   | 0844                     | 14997             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
| 148  |                 | OB5          | 0602                | 0973                 | 35181             | 2716           |   |                          | 14995             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
|  |                 | STO          | 0700                | 0808                 | 3508              | 2735           | 0008658                                   | 0939                     | 14949             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
| 148  |                 | OB5          | T0795               | 0687                 | 35035             | 2748           |   |                          | 14917             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
|  |                 | STO          | 0800                | 0683                 | 3504              | 2749           | 0007267                                   | 1019                     | 14916             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
|  |                 | STO          | 0900                | 0612                 | 3507              | 2761           | 0006185                                   | 1086                     | 14905             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
| 148  |                 | OB5          | 0984                | 0561                 | 35072             | 2768           |   |                          | 14899             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
|  |                 | STO          | 1000                | 0552                 | 3507              | 2769           | 0005469                                   | 1144                     | 14898             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
|  |                 | STO          | 1100                | 0503                 | 3503              | 2772           | 0005160                                   | 1198                     | 14894             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
|  |                 | STO          | 1200                | 0464                 | 3501              | 2774           | 0004945                                   | 1248                     | 14894             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
| 148  |                 | OB5          | T1231               | 0454                 | 35001             | 2775           |   |                          | 14895             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
|  |                 | STO          | 1300                | 0440                 | 3499              | 2776           | 0004854                                   | 1297                     | 14901             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
|  |                 | STO          | 1400                | 0422                 | 3498              | 2777           | 0004606                                   | 1345                     | 14910             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
| 148  |                 | OB5          | T1492               | 0408                 | 34968             | 2777           |   |                          | 14919             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
|  |                 | STO          | 1500                | 0407                 | 3497              | 2777           | 0004778                                   | 1393                     | 14920             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
|  |                 | STO          | 1750                | 0389                 | 3496              | 2778           | 0004833                                   | 1513                     | 14955             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
|  |                 | STO          | 2000                | 0372                 | 3495              | 2779           | 0004879                                   | 1635                     | 14930             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
| 181  |                 | OB5          | T2069               | 0368                 | 34944             | 2780           |   |                          | 15000             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
|  |                 | STO          | 2500                | 0343                 | 3497              | 2764           | 0004691                                   | 1874                     | 15063             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
| 181  |                 | OB5          | T2596               | 0337                 | 34971             | 2765           |   |                          | 15077             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
|  |                 | STO          | 3000                | 0311                 | 3497              | 2767           | 0004532                                   | 2105                     | 15136             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
| 181  |                 | OB5          | 3130                | 0302                 | 34969             | 2768           |   |                          | 15155             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
| 181  |                 | OB5          | 3667                | 0266                 | 34949             | 2790           |   |                          | 15233             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
|  |                 | STO          | 4000                | 0259                 | 3494              | 2789           | 0004495                                   | 2556                     | 15289             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
| 181  |                 | OB5          | T4207               | 0239                 | 34930             | 2790           |   |                          | 15317             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
| 181  |                 | OB5          | 4245                | 0234                 | 34932             | 2791           |   |                          | 15321             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |
| 181  |                 | OB5          | T4550               | 0230                 | 34933             | 2791           |   |                          | 15375             |                     |                                 |                      |                                 |                                 |                                   |                      |           |      |                      |                |      |                           |       |  |  |  |      |  |            |  |              |  |          |  |                      |  |            |          |      |                |          |          |          |          |          |          |          |          |          |          |    |    |     |     |     |     |   |    |  |  |  |  |  |  |



TABLE III.—Continued

| REFERENCE<br>CITY<br>CODE  | ID.<br>NO.  | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MARSSEN<br>SQUARE | STATION TIME<br>(GMT) |                                 |                | YEAR                                  | ORIGINATOR'S           |                     | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>S'AMPLES | WAVE<br>OBSERVATIONS            |                                 |                                    |     | WEA-<br>THER<br>CODE | CLOUD<br>CODES | TYPE<br>(amt) | NODC<br>STATION<br>NUMBER |      |
|----------------------------|-------------|--------------|--------------------|---------------------|-------------------|-----------------------|---------------------------------|----------------|---------------------------------------|------------------------|---------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|------------------------------------|-----|----------------------|----------------|---------------|---------------------------|------|
|                            |             |              |                    |                     |                   | 10°                   | 1°                              | MO DAY HR 1/10 |                                       | CRUISE<br>NO.          | STATION<br>NUMBER   |                                 |                                 | DIR                             | HGT                             | PER                                | SEA |                      |                |               |                           |      |
| 311176                     |             | EN           | 4400 N             | 04054 W             | 149               | 40                    | 10                              | 27 133         | 1967                                  | 012                    | 015                 | 4328                            |                                 | 11                              | 2                               | 3                                  |     |                      | 4              | 4             |                           | 0015 |
|                            |             |              |                    |                     |                   |                       |                                 |                |                                       |                        |                     |                                 |                                 |                                 |                                 |                                    |     |                      |                |               |                           |      |
|                            |             |              |                    |                     |                   | WATER                 |                                 | WIND           |                                       | AIR TEMP. °C           |                     | VIS<br>CODE                     | NO.<br>OBS.<br>DEPTHS           | SPECIAL<br>OBSERVATIONS         |                                 |                                    |     |                      |                |               |                           |      |
|                            |             |              |                    |                     |                   | COLOR<br>CODE         | TRANS<br>UNIT                   | DIR.           | SPEED<br>OF<br>FORCE                  | BAND-<br>METER<br>(mm) | DRY<br>RULE         | WET<br>RULE                     |                                 |                                 |                                 |                                    |     |                      |                |               |                           |      |
|                            |             |              |                    |                     |                   | 04                    |                                 |                | 05                                    | 512                    | 159                 | 133                             | 156                             | 7                               | 14                              |                                    |     |                      |                |               |                           |      |
| MESSAGE<br>TIME<br>HR 1/10 | CASE<br>NO. | CARD<br>TYPE | DEPTH (m)          | 1 °C                | 5 °F.             | SIGMA-T               | SPECIFIC VOLUME<br>AND MALT-SIG |                | Σ Δ D<br>DYN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY      | O <sub>2</sub> ml/l | PO <sub>2</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l            | NO <sub>2</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | Si O <sub>4</sub> -Si<br>μg - ml/l | pH  |                      |                |               |                           |      |
|                            |             | STD          | 0000               | 1893                | 3614              | 2592                  | 0020883                         |                | 0000                                  | 15205                  |                     |                                 |                                 |                                 |                                 |                                    |     |                      |                |               |                           |      |
| 133                        |             | OBS          | 0000               | 1893                | 36136             | 2592                  |                                 |                |                                       | 15205                  |                     |                                 |                                 |                                 |                                 |                                    |     |                      |                |               |                           |      |
|                            |             | STD          | 0010               | 1893                | 3614              | 2592                  | 0020919                         |                | 0020                                  | 15207                  |                     |                                 |                                 |                                 |                                 |                                    |     |                      |                |               |                           |      |
| 133                        |             | OBS          | 0018               | 1893                | 36134             | 2592                  |                                 |                |                                       | 15208                  |                     |                                 |                                 |                                 |                                 |                                    |     |                      |                |               |                           |      |
|                            |             | STD          | 0020               | 1893                | 3613              | 2592                  | 0020973                         |                | 0041                                  | 15208                  |                     |                                 |                                 |                                 |                                 |                                    |     |                      |                |               |                           |      |
|                            |             | STD          | 0030               | 1894                | 3613              | 2592                  | 0021035                         |                | 0062                                  | 15210                  |                     |                                 |                                 |                                 |                                 |                                    |     |                      |                |               |                           |      |
| 133                        |             | OBS          | 0038               | 1894                | 36130             | 2592                  |                                 |                |                                       | 15211                  |                     |                                 |                                 |                                 |                                 |                                    |     |                      |                |               |                           |      |
|                            |             | STD          | 0050               | 1834                | 3625              | 2616                  | 0013830                         |                | 0102                                  | 15198                  |                     |                                 |                                 |                                 |                                 |                                    |     |                      |                |               |                           |      |
|                            |             | STD          | 0075               | 1737                | 3638              | 2650                  | 0015679                         |                | 0145                                  | 15175                  |                     |                                 |                                 |                                 |                                 |                                    |     |                      |                |               |                           |      |
| 133                        |             | OBS          | 0075               | 1737                | 36378             | 2650                  |                                 |                |                                       | 15175                  |                     |                                 |                                 |                                 |                                 |                                    |     |                      |                |               |                           |      |
|                            |             | STD          | 0100               | 1684                | 3629              | 2656                  | 0015150                         |                | 0184                                  | 15163                  |                     |                                 |                                 |                                 |                                 |                                    |     |                      |                |               |                           |      |
| 133                        |             | OBS          | 0116               | 1657                | 36252             | 2659                  |                                 |                |                                       | 15157                  |                     |                                 |                                 |                                 |                                 |                                    |     |                      |                |               |                           |      |
|                            |             | STD          | 0125               | 1649                | 3624              | 2660                  | 0014847                         |                | 0221                                  | 15156                  |                     |                                 |                                 |                                 |                                 |                                    |     |                      |                |               |                           |      |
|                            |             | STD          | 0150               | 1622                | 3620              | 2663                  | 0014643                         |                | 0256                                  | 15151                  |                     |                                 |                                 |                                 |                                 |                                    |     |                      |                |               |                           |      |
| 133                        |             | OBS          | T0155              | 1616                | 36186             | 2664                  |                                 |                |                                       | 15150                  |                     |                                 |                                 |                                 |                                 |                                    |     |                      |                |               |                           |      |
|                            |             | STD          | 0200               | 1542                | 3609              | 2673                  | 0013823                         |                | 0329                                  | 15133                  |                     |                                 |                                 |                                 |                                 |                                    |     |                      |                |               |                           |      |
| 133                        |             | OBS          | 0232               | 1434                | 36018             | 2679                  |                                 |                |                                       | 15123                  |                     |                                 |                                 |                                 |                                 |                                    |     |                      |                |               |                           |      |
|                            |             | STD          | 0250               | 1466                | 3596              | 2681                  | 0013262                         |                | 0397                                  | 15116                  |                     |                                 |                                 |                                 |                                 |                                    |     |                      |                |               |                           |      |
|                            |             | STD          | 0300               | 1402                | 3586              | 2686                  | 0012839                         |                | 0462                                  | 15102                  |                     |                                 |                                 |                                 |                                 |                                    |     |                      |                |               |                           |      |
| 133                        |             | OBS          | 0300               | 1396                | 35851             | 2687                  |                                 |                |                                       | 15101                  |                     |                                 |                                 |                                 |                                 |                                    |     |                      |                |               |                           |      |
| 133                        |             | OBS          | T0368              | 1348                | 35823             | 2695                  |                                 |                |                                       | 15095                  |                     |                                 |                                 |                                 |                                 |                                    |     |                      |                |               |                           |      |
|                            |             | STD          | 0400               | 1342                | 3582              | 2696                  | 0012203                         |                | 0538                                  | 15098                  |                     |                                 |                                 |                                 |                                 |                                    |     |                      |                |               |                           |      |
| 133                        |             | OBS          | 0442               | 1318                | 35784             | 2698                  |                                 |                |                                       | 15097                  |                     |                                 |                                 |                                 |                                 |                                    |     |                      |                |               |                           |      |
|                            |             | STD          | 0500               | 1253                | 3569              | 2704                  | 0011629                         |                | 0707                                  | 15083                  |                     |                                 |                                 |                                 |                                 |                                    |     |                      |                |               |                           |      |
| 133                        |             | OBS          | T0582              | 1116                | 35497             | 2715                  |                                 |                |                                       | 15047                  |                     |                                 |                                 |                                 |                                 |                                    |     |                      |                |               |                           |      |
|                            |             | STD          | 0600               | 1061                | 3541              | 2718                  | 0010325                         |                | 0817                                  | 15030                  |                     |                                 |                                 |                                 |                                 |                                    |     |                      |                |               |                           |      |
|                            |             | STD          | 0700               | 0811                | 3506              | 2733                  | 0008850                         |                | 0912                                  | 14949                  |                     |                                 |                                 |                                 |                                 |                                    |     |                      |                |               |                           |      |
| 133                        |             | OBS          | 0718               | 0776                | 35027             | 2735                  |                                 |                |                                       | 14939                  |                     |                                 |                                 |                                 |                                 |                                    |     |                      |                |               |                           |      |
|                            |             | STD          | 0800               | 0670                | 3503              | 2750                  | 0007128                         |                | 0992                                  | 14911                  |                     |                                 |                                 |                                 |                                 |                                    |     |                      |                |               |                           |      |
| 133                        |             | OBS          | T0870              | 0600                | 35034             | 2760                  |                                 |                |                                       | 14895                  |                     |                                 |                                 |                                 |                                 |                                    |     |                      |                |               |                           |      |
|                            |             | STD          | 0900               | 0576                | 3504              | 2763                  | 0005897                         |                | 1057                                  | 14890                  |                     |                                 |                                 |                                 |                                 |                                    |     |                      |                |               |                           |      |
|                            |             | STD          | 1000               | 0519                | 3504              | 2771                  | 0005207                         |                | 1113                                  | 14884                  |                     |                                 |                                 |                                 |                                 |                                    |     |                      |                |               |                           |      |
| 133                        |             | OBS          | T1038              | 0508                | 35044             | 2772                  |                                 |                |                                       | 14886                  |                     |                                 |                                 |                                 |                                 |                                    |     |                      |                |               |                           |      |

| REFERENCE<br>CITY<br>CODE  | ID.<br>NO.  | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MARSSEN<br>SQUARE | STATION TIME<br>(GMT) |                                 |                | YEAR                                  | ORIGINATOR'S           |                     | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>S'AMPL'S | WAVE<br>OBSERVATIONS            |                                 |                                    | WEA-<br>THER<br>CODE | CLOUD<br>CODES | TYPE<br>(amt) | NDOC<br>STATION<br>NUMBER |      |
|----------------------------|-------------|--------------|--------------------|---------------------|-------------------|-----------------------|---------------------------------|----------------|---------------------------------------|------------------------|---------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|------------------------------------|----------------------|----------------|---------------|---------------------------|------|
|                            |             |              |                    |                     |                   | 10°                   | 1°                              | MO DAY HR 1/10 |                                       | CRUISE<br>NO.          | STATION<br>NUMBER   |                                 |                                 | DIR                             | HGT                             | PER                                |                      |                |               |                           | SEA  |
| 311176                     |             | EN           | 4355 N             | 04050 W             | 149               | 30                    | 10                              | 28 130         | 1967                                  | 012                    | 016                 | 4346                            |                                 | 13                              | 2                               | 3                                  |                      | 4              | 6             |                           | 0016 |
|                            |             |              |                    |                     |                   |                       |                                 |                |                                       |                        |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
|                            |             |              |                    |                     |                   | WATER                 |                                 | WIND           |                                       | AIR TEMP. °C           |                     | VIS<br>CODE                     | NO.<br>OBS.<br>DEPTHS           | SPECIAL<br>OBSERVATIONS         |                                 |                                    |                      |                |               |                           |      |
|                            |             |              |                    |                     |                   | COLOR<br>CODE         | TRANS<br>UNIT                   | DIR.           | SPEED<br>OF<br>FORCE                  | BAND-<br>METER<br>(mm) | DRY<br>RULE         | WET<br>RULE                     |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
|                            |             |              |                    |                     |                   | 04                    |                                 |                | 12                                    | 513                    | 193                 | 211                             | 193                             | 7                               | 14                              |                                    |                      |                |               |                           |      |
| MESSAGE<br>TIME<br>HR 1/10 | CASE<br>NO. | CARD<br>TYPE | DEPTH (m)          | 1 °C                | 5 °F.             | SIGMA-T               | SPECIFIC VOLUME<br>AND MALT-SIG |                | Σ Δ D<br>DYN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY      | O <sub>2</sub> ml/l | PO <sub>2</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l            | NO <sub>2</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | Si O <sub>4</sub> -Si<br>μg - ml/l | pH                   |                |               |                           |      |
|                            |             | STD          | 0000               | 1896                | 3509              | 2588                  | 0021273                         |                | 0000                                  | 15205                  |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
| 130                        |             | OBS          | 0000               | 1896                | 36092             | 2588                  |                                 |                |                                       | 15205                  |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
|                            |             | STD          | 0010               | 1895                | 3509              | 2589                  | 0021300                         |                | 0021                                  | 15207                  |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
|                            |             | STD          | 0020               | 1895                | 3609              | 2589                  | 0021326                         |                | 0042                                  | 15208                  |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
| 130                        |             | OBS          | 0027               | 1895                | 36092             | 2589                  |                                 |                |                                       | 15210                  |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
|                            |             | STD          | 0030               | 1882                | 3509              | 2592                  | 0021935                         |                | 0063                                  | 15206                  |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
|                            |             | STD          | 0050               | 1806                | 3610              | 2612                  | 0019236                         |                | 0104                                  | 15189                  |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
| 130                        |             | OBS          | 0054               | 1795                | 36106             | 2615                  |                                 |                |                                       | 15186                  |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
|                            |             | STD          | 0075               | 1757                | 3521              | 2632                  | 0017335                         |                | 0149                                  | 15179                  |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
|                            |             | STD          | 0100               | 1711                | 3628              | 2649                  | 0015695                         |                | 0191                                  | 15171                  |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
| 130                        |             | OBS          | 0109               | 1696                | 36283             | 2653                  |                                 |                |                                       | 15167                  |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
|                            |             | STD          | 0125               | 1661                | 3623              | 2657                  | 0015166                         |                | 0230                                  | 15159                  |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
|                            |             | STD          | 0150               | 1615                | 3617              | 2663                  | 0014696                         |                | 0267                                  | 15148                  |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
| 130                        |             | OBS          | 0162               | 1594                | 36138             | 2665                  |                                 |                |                                       | 15144                  |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
|                            |             | STD          | 0200               | 1539                | 3506              | 2672                  | 0013921                         |                | 0339                                  | 15132                  |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
| 130                        |             | OBS          | T0216              | 1514                | 36031             | 2675                  |                                 |                |                                       | 15127                  |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
|                            |             | STD          | 0250               | 1469                | 3596              | 2680                  | 0013535                         |                | 0407                                  | 15117                  |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
|                            |             | STD          | 0300               | 1411                | 3583              | 2686                  | 0012879                         |                | 0472                                  | 15105                  |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
| 130                        |             | OBS          | 0322               | 1339                | 35948             | 2688                  |                                 |                |                                       | 15101                  |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
|                            |             | STD          | 0400               | 1347                | 3531              | 2694                  | 0012342                         |                | 0598                                  | 15100                  |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
| 130                        |             | OBS          | 0429               | 1322                | 35776             | 2697                  |                                 |                |                                       | 15096                  |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
|                            |             | STD          | 0500               | 1245                | 3565              | 2702                  | 0011735                         |                | 0719                                  | 15051                  |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
| 130                        |             | OBS          | T0536              | 1182                | 35549             | 2707                  |                                 |                |                                       | 15033                  |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
|                            |             | STD          | 0600               | 0993                | 3525              | 2717                  | 0010326                         |                | 0829                                  | 15003                  |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
| 130                        |             | OBS          | 0646               | 0862                | 35039             | 2724                  |                                 |                |                                       | 14966                  |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
|                            |             | STD          | 0700               | 0805                | 3507              | 2734                  | 0005765                         |                | 0925                                  | 14947                  |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
|                            |             | STD          | 0800               | 0657                | 3504              | 2749                  | 0007309                         |                | 1005                                  | 14918                  |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
| 130                        |             | OBS          | T0863              | 0629                | 35031             | 2756                  |                                 |                |                                       | 14935                  |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
|                            |             | STD          | 0900               | 0610                | 3504              | 2756                  | 0005349                         |                | 1073                                  | 14904                  |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
|                            |             | STD          | 1000               | 0502                | 3505              | 2766                  | 0005712                         |                | 1133                                  | 14901                  |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
| 130                        |             | OBS          | 1063               | 0526                | 35053             | 2771                  |                                 |                |                                       | 14901                  |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
|                            |             | STD          | 1100               | 0519                | 3505              | 2771                  | 0005262                         |                | 1138                                  | 14901                  |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
|                            |             | STD          | 1200               | 0441                | 3503              | 2774                  | 0005007                         |                | 1240                                  | 14901                  |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
|                            |             | STD          | 1300               | 0449                | 3501              | 2776                  | 0004810                         |                | 1289                                  | 14905                  |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
| 130                        |             | OBS          | T1355              | 0434                | 35034             | 2777                  |                                 |                |                                       | 14908                  |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
|                            |             | STD          | 1400               | 0423                | 3500              | 2775                  | 0004677                         |                | 1336                                  | 14911                  |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
|                            |             | STD          | 1500               | 0404                | 3499              | 2779                  | 0004607                         |                | 1383                                  | 14919                  |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |
| 130                        |             | OBS          | T1654              | 0346                | 34971             | 2780                  |                                 |                |                                       | 14938                  |                     |                                 |                                 |                                 |                                 |                                    |                      |                |               |                           |      |



TABLE III.—Continued

| REFERENCE<br>CITY<br>CODE  | SHIP<br>ID. NO. | SHIP<br>CODE | LATITUDE<br>° ' /10 | LONGITUDE<br>° ' /10 | MARS<br>SQUARE | STATION TIME<br>(GMT) |                                |                                       |                      | YEAR                | ORIGINATOR'S                    |                      |                                 | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLE     | WAVE<br>OBSERVATIONS    |          |     | WEA-<br>THER<br>CODE | CLOUD<br>CODES | TYPE (AMT) | NODC<br>STATION<br>NUMBER |     |
|----------------------------|-----------------|--------------|---------------------|----------------------|----------------|-----------------------|--------------------------------|---------------------------------------|----------------------|---------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|-------------------------|----------|-----|----------------------|----------------|------------|---------------------------|-----|
|                            |                 |              |                     |                      |                | 10"                   | 1"                             | MO                                    | DAY                  |                     | HR./10                          | CRUISE<br>NO.        | STATION<br>NUMBER               |                                 |                                   | DIR                     | HGT      | PER |                      |                |            |                           | SEA |
|                            |                 |              |                     |                      |                |                       |                                |                                       |                      |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
| 311176                     | EN              |              | 4403 N              | 04104 W              | 149            | 41                    | 10                             | 23                                    | 135                  | 1957                | C12                             | 017                  | 4773                            |                                 | 16                                | 3                       | 3        |     | 5                    | 8              |            | 0017                      |     |
|                            |                 |              |                     |                      |                | WATER                 |                                | WIND                                  |                      | BARO-<br>METER      |                                 | AIR TEMP. °C         |                                 | VIL<br>CODE                     | NO.<br>OBS.<br>DEPTH              | SPECIAL<br>OBSERVATIONS |          |     |                      |                |            |                           |     |
|                            |                 |              |                     |                      |                | COLOR<br>CODE         | TRANSL                         | DIR.                                  | SPEED<br>OF<br>FORCE | UNIT                | DRY<br>RULE                     | WET<br>RULE          |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 |              |                     |                      |                | 11                    | S11                            | 227                                   | 211                  | 194                 | 7                               | 14                   |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
| MESSAGE<br>TIME<br>HR. /10 | CAST<br>NO.     | CARD<br>TYPE | DEPTH (m)           | T °C                 | S ‰            | SIGMA-T               | SPECIFIC VOLUME<br>ANOMALY-20° | Σ Δ D<br>DTN. M.<br>X 10 <sup>3</sup> | SOUND<br>VELOCITY    | O <sub>2</sub> ml/l | PO <sub>2</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l | NO <sub>2</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH                      | S<br>CUT |     |                      |                |            |                           |     |
|                            |                 | STO          | 0000                | 1945                 | 35.82          | 25.81                 | 0021937                        | 0000                                  | 15188                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
| 139                        |                 | DBS          | 0000                | 1845                 | 35.823         | 25.81                 |                                |                                       | 15188                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 0010                | 1843                 | 35.83          | 25.82                 | 0021442                        | 0022                                  | 15169                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 0020                | 1841                 | 35.83          | 25.82                 | 0021495                        | 0043                                  | 15170                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
| 139                        |                 | DBS          | 0025                | 1840                 | 35.834         | 25.83                 |                                |                                       | 15191                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 0030                | 1839                 | 35.85          | 25.84                 | 0021753                        | 0065                                  | 15191                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 0050                | 1837                 | 35.93          | 25.91                 | 0021211                        | 0108                                  | 15195                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
| 139                        |                 | DBS          | 0051                | 1837                 | 35.933         | 25.91                 |                                |                                       | 15195                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 0075                | 1799                 | 36.10          | 26.13                 | 0019158                        | 0157                                  | 15190                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 0100                | 1749                 | 36.20          | 26.31                 | 0017338                        | 0204                                  | 15180                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
| 139                        |                 | DBS          | 0102                | 1743                 | 36.200         | 26.35                 |                                |                                       | 15179                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 0125                | 1669                 | 36.18          | 26.51                 | 0015736                        | 0246                                  | 15161                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 0150                | 1603                 | 36.14          | 26.63                 | 0014624                        | 0284                                  | 15145                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
| 139                        |                 | DBS          | 0154                | 1594                 | 36.132         | 26.65                 |                                |                                       | 15142                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 0200                | 1519                 | 36.00          | 26.72                 | 0013432                        | 0355                                  | 15125                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
| 139                        |                 | DBS          | 0205                | 1511                 | 35.991         | 26.73                 |                                |                                       | 15123                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 0250                | 1451                 | 35.90          | 26.79                 | 0013403                        | 0423                                  | 15111                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 0300                | 1395                 | 35.82          | 26.85                 | 0012961                        | 0489                                  | 15100                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
| 129                        |                 | DBS          | 0307                | 1368                 | 35.813         | 26.86                 |                                |                                       | 15098                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 0400                | 1324                 | 35.75          | 26.94                 | 0012316                        | 0616                                  | 15092                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
| 139                        |                 | DBS          | 0411                | 1307                 | 35.723         | 26.96                 |                                |                                       | 15088                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 0500                | 1070                 | 35.27          | 27.05                 | 0011254                        | 0734                                  | 15015                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
| 139                        |                 | DBS          | 10517               | 1042                 | 35.226         | 27.07                 |                                |                                       | 15007                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 0600                | 1003                 | 35.20          | 27.12                 | 0010820                        | 0844                                  | 15006                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
| 139                        |                 | DBS          | 0621                | 0985                 | 35.132         | 27.15                 |                                |                                       | 15003                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 0700                | 0812                 | 35.10          | 27.35                 | 0008592                        | 0941                                  | 14950                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 0800                | 0649                 | 35.02          | 27.53                 | 0006886                        | 1018                                  | 14903                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
| 139                        |                 | DBS          | 10836               | 0606                 | 35.034         | 27.57                 |                                |                                       | 14891                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 0900                | 0576                 | 35.01          | 27.61                 | 0006120                        | 1083                                  | 14890                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 1000                | 0534                 | 35.01          | 27.66                 | 0005657                        | 1142                                  | 14890                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
| 139                        |                 | DBS          | 1045                | 0518                 | 35.008         | 27.68                 |                                |                                       | 14890                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 1100                | 0502                 | 35.01          | 27.70                 | 0005334                        | 1197                                  | 14893                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 1200                | 0475                 | 35.01          | 27.73                 | 0005081                        | 1249                                  | 14899                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 1300                | 0451                 | 35.01          | 27.76                 | 0004868                        | 1299                                  | 14905                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
| 139                        |                 | DBS          | 1312                | 0443                 | 35.008         | 27.76                 |                                |                                       | 14906                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 1400                | 0430                 | 35.00          | 27.78                 | 0004742                        | 1347                                  | 14913                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 1500                | 0411                 | 34.99          | 27.79                 | 0004687                        | 1394                                  | 14922                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
| 139                        |                 | DBS          | 11581               | 0399                 | 34.974         | 27.79                 |                                |                                       | 14931                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |

| REFERENCE<br>CITY<br>CODE  | SHIP<br>ID. NO. | SHIP<br>CODE | LATITUDE<br>° ' /10 | LONGITUDE<br>° ' /10 | MARS<br>SQUARE | STATION TIME<br>(GMT) |                                |                                       |                      | YEAR                | ORIGINATOR'S                    |                      |                                 | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLE     | WAVE<br>OBSERVATIONS    |          |     | WEA-<br>THER<br>CODE | CLOUD<br>CODES | TYPE (AMT) | NODC<br>STATION<br>NUMBER |     |
|----------------------------|-----------------|--------------|---------------------|----------------------|----------------|-----------------------|--------------------------------|---------------------------------------|----------------------|---------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|-------------------------|----------|-----|----------------------|----------------|------------|---------------------------|-----|
|                            |                 |              |                     |                      |                | 10"                   | 1"                             | MO                                    | DAY                  |                     | HR./10                          | CRUISE<br>NO.        | STATION<br>NUMBER               |                                 |                                   | DIR                     | HGT      | PER |                      |                |            |                           | SEA |
|                            |                 |              |                     |                      |                |                       |                                |                                       |                      |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
| 311176                     | EN              |              | 4359 N              | 04104 W              | 149            | 51                    | 10                             | 25                                    | 125                  | 1957                | D12                             | 016                  | 4828                            |                                 | 15                                | 0                       | 3        |     | 00                   | 0              | 0018       |                           |     |
|                            |                 |              |                     |                      |                | WATER                 |                                | WIND                                  |                      | BARO-<br>METER      |                                 | AIR TEMP. °C         |                                 | VIL<br>CODE                     | NO.<br>OBS.<br>DEPTH              | SPECIAL<br>OBSERVATIONS |          |     |                      |                |            |                           |     |
|                            |                 |              |                     |                      |                | COLOR<br>CODE         | TRANSL                         | DIR.                                  | SPEED<br>OF<br>FORCE | UNIT                | DRY<br>RULE                     | WET<br>RULE          |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 |              |                     |                      |                | 13                    | S10                            | 227                                   | 225                  | 194                 | 7                               | 14                   |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
| MESSAGE<br>TIME<br>HR. /10 | CAST<br>NO.     | CARD<br>TYPE | DEPTH (m)           | T °C                 | S ‰            | SIGMA-T               | SPECIFIC VOLUME<br>ANOMALY-20° | Σ Δ D<br>DTN. M.<br>X 10 <sup>3</sup> | SOUND<br>VELOCITY    | O <sub>2</sub> ml/l | PO <sub>2</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l | NO <sub>2</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH                      | S<br>CUT |     |                      |                |            |                           |     |
|                            |                 | STO          | 0000                | 1944                 | 35.88          | 25.85                 | 0021572                        | 0000                                  | 15188                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
| 129                        |                 | DBS          | 0000                | 1844                 | 35.878         | 25.85                 |                                |                                       | 15186                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 0010                | 1844                 | 35.90          | 25.87                 | 0021426                        | 0021                                  | 15190                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 0020                | 1844                 | 35.92          | 25.88                 | 0021334                        | 0042                                  | 15192                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
| 129                        |                 | DBS          | 0025                | 1844                 | 35.927         | 25.89                 |                                |                                       | 15193                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 0030                | 1844                 | 35.93          | 25.89                 | 0021795                        | 0064                                  | 15194                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
| 129                        |                 | DBS          | 0044                | 1843                 | 35.937         | 25.90                 |                                |                                       | 15196                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 0050                | 1838                 | 35.95          | 25.92                 | 0021064                        | 0106                                  | 15195                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 0075                | 1774                 | 36.07          | 26.16                 | 0013748                        | 0156                                  | 15182                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
| 129                        |                 | DBS          | 0095                | 1721                 | 36.133         | 26.35                 |                                |                                       | 15171                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 0100                | 1704                 | 36.13          | 26.39                 | 0016785                        | 0200                                  | 15167                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 0125                | 1691                 | 36.13          | 26.50                 | 0015235                        | 0240                                  | 15149                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
| 129                        |                 | DBS          | 0143                | 1590                 | 36.136         | 26.66                 |                                |                                       | 15138                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 0150                | 1561                 | 36.12          | 26.67                 | 0014254                        | 0277                                  | 15136                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
| 129                        |                 | DBS          | 10102               | 1526                 | 36.045         | 26.74                 |                                |                                       | 15126                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 0200                | 1512                 | 36.02          | 26.75                 | 0013705                        | 0347                                  | 15123                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 0250                | 1437                 | 35.94          | 26.81                 | 0013256                        | 0414                                  | 15105                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
| 129                        |                 | DBS          | 0243                | 1396                 | 35.813         | 26.84                 |                                |                                       | 15097                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 0300                | 1354                 | 35.50          | 26.96                 | 0012333                        | 0480                                  | 15096                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
| 129                        |                 | DBS          | 0377                | 1322                 | 35.730         | 26.93                 |                                |                                       | 15087                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 0400                | 1314                 | 35.72          | 26.94                 | 0012311                        | 0606                                  | 15088                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
| 129                        |                 | DBS          | 10477               | 1223                 | 35.591         | 27.02                 |                                |                                       | 15068                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 0500                | 1158                 | 35.45          | 27.06                 | 0011355                        | 0724                                  | 15048                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
| 129                        |                 | DBS          | 0549                | 0955                 | 35.208         | 27.15                 |                                |                                       | 14995                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 0600                | 0921                 | 35.15          | 27.22                 | 0005618                        | 0830                                  | 14975                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 0700                | 0751                 | 35.01          | 27.34                 | 0005233                        | 0941                                  | 14926                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
| 129                        |                 | DBS          | 10764               | 0673                 | 34.975         | 27.45                 |                                |                                       | 14905                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 0800                | 0655                 | 35.00          | 27.51                 | 0007051                        | 0997                                  | 14934                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 0900                | 0600                 | 35.06          | 27.62                 | 0006054                        | 1063                                  | 14900                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
| 129                        |                 | DBS          | 0954                | 0573                 | 35.077         | 27.67                 |                                |                                       | 14899                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 1000                | 0551                 | 35.07          | 27.65                 | 0005443                        | 1120                                  | 14897                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 1100                | 0507                 | 35.04          | 27.72                 | 0005134                        | 1173                                  | 14895                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 1200                | 0470                 | 35.02          | 27.75                 | 0004908                        | 1224                                  | 14897                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
| 129                        |                 | DBS          | 11204               | 0462                 | 35.022         | 27.75                 |                                |                                       | 14897                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 1300                | 0441                 | 35.00          | 27.77                 | 0004777                        | 1272                                  | 14901                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
|                            |                 | STO          | 1400                | 0420                 | 34.98          | 27.77                 | 0004726                        | 1319                                  | 14909                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |
| 129                        |                 | DBS          | 11463               | 0410                 | 34.972         | 27.77                 |                                |                                       | 14915                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |                      |                |            |                           |     |



TABLE III.—Continued

| REFERENCE<br>CITY<br>CODE   | SHIP<br>ID.<br>NO. | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MARDEN<br>SQUARE<br>10° 1' | STATION TIME<br>(GMT) |                        |                                 | YEAR         | ORIGINATOR'S      |                   | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>S.W.P.S. | WAVE<br>OBSERVATIONS |                                 |                                 | WEA-<br>THER<br>CODE              | CLOUD<br>CODES |        | NODC<br>STATION<br>NUMBER |      |
|-----------------------------|--------------------|--------------------|---------------------|----------------------------|-----------------------|------------------------|---------------------------------|--------------|-------------------|-------------------|-----------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|----------------|--------|---------------------------|------|
|                             |                    |                    |                     |                            | MO                    | DAY                    | HR.1/10                         |              | CRUISE<br>NO.     | STATION<br>NUMBER |                       |                                 | DIR.                 | HGT.                            | PER.                            |                                   | SEA            | TYH    |                           | AMT. |
| 311175                      | EN                 | 4358 N             | 0404 P W            | 145                        | 30                    | 13                     | 31                              | 140          | 1957              | 012               | 017                   | 4775                            |                      | 16                              | 2                               | 3                                 |                | 3      | 7                         | 0019 |
|                             |                    |                    |                     |                            |                       |                        |                                 |              |                   |                   |                       |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
|                             |                    | WATER              |                     | WIND                       |                       | BARO-<br>METER<br>(mm) |                                 | AIR TEMP. °C |                   | NO. OF<br>DEPTHS  |                       | SPECIAL<br>OBSERVATIONS         |                      |                                 |                                 |                                   |                |        |                           |      |
|                             |                    | COLOR<br>CODE      | TRANS.<br>INT.      | DIR.                       | SPEED<br>OF<br>FORCE  |                        |                                 | DRY<br>BULB  | WET<br>BULB       | VIS.<br>CODE      |                       |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
|                             |                    |                    |                     |                            | 17                    | 508                    | 172                             | 211          | 174               | 14                |                       |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
| MESSAGE<br>TIME<br>HR. 1/10 | CAS-<br>T<br>NO.   | CARD<br>TYPE       | DEPTH<br>(m)        | T °C                       | S ‰                   | SIGMA-T                | SPECIFIC VOLUME<br>ANOMALY-STEP |              | SOUND<br>VELOCITY |                   | O <sub>2</sub> ml/l   | PO <sub>4</sub> -P<br>µg - dl/l | TOTAL-P<br>µg - dl/l | NO <sub>3</sub> -N<br>µg - dl/l | NO <sub>2</sub> -N<br>µg - dl/l | SiO <sub>4</sub> -Si<br>µg - dl/l | pH             | S<br>C |                           |      |
| 140                         |                    | STD                | 0000                | 1870                       | 3592                  | 2582                   | 0021871                         |              | 0000              |                   | 15196                 |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
|                             |                    | OR5                | 0000                | 1870                       | 35923                 | 2582                   |                                 |              |                   |                   | 15196                 |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
|                             |                    | STD                | 0010                | 1863                       | 3593                  | 2584                   | 0021710                         |              | 0021              |                   | 15196                 |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
| 140                         |                    | STD                | 0020                | 1857                       | 3593                  | 2586                   | 0021600                         |              | 0043              |                   | 15196                 |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
|                             |                    | OR5                | 0027                | 1854                       | 35927                 | 2586                   |                                 |              |                   |                   | 15196                 |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
|                             |                    | STD                | 0030                | 1853                       | 3593                  | 2587                   | 0021541                         |              | 0065              |                   | 15196                 |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
| 140                         |                    | STD                | 0050                | 1847                       | 3592                  | 2583                   | 0021472                         |              | 0108              |                   | 15196                 |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
|                             |                    | OR5                | 0053                | 1846                       | 35922                 | 2588                   |                                 |              |                   |                   | 15198                 |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
|                             |                    | STD                | 0075                | 1753                       | 3607                  | 2612                   | 0017248                         |              | 0159              |                   | 15168                 |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
| 140                         |                    | STD                | 0103                | 1732                       | 3617                  | 2635                   | 0017155                         |              | 0204              |                   | 15175                 |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
|                             |                    | OR5                | 0105                | 1717                       | 36185                 | 2640                   |                                 |              |                   |                   | 15172                 |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
|                             |                    | STD                | 0125                | 1671                       | 3509                  | 2644                   | 0016432                         |              | 0246              |                   | 15161                 |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
| 140                         |                    | STD                | 0153                | 1507                       | 3598                  | 2650                   | 0015858                         |              | 0286              |                   | 15144                 |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
|                             |                    | OR5                | 0150                | 1540                       |                       |                        |                                 |              |                   |                   |                       |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
|                             |                    | STD                | 0200                | 1455                       | 3582                  | 2672                   | 0013902                         |              | 0361              |                   | 15102                 |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
| 140                         |                    | OR5                | T0215               | 1417                       | 35795                 | 2577                   |                                 |              |                   |                   | 15093                 |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
|                             |                    | STD                | 0250                | 1354                       | 3578                  | 2682                   | 0013087                         |              | 0428              |                   | 15090                 |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
|                             |                    | STD                | 0300                | 1354                       | 3576                  | 2683                   | 0012607                         |              | 0472              |                   | 15085                 |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
| 140                         |                    | OR5                | 0317                | 1333                       | 35744                 | 2691                   |                                 |              |                   |                   | 15083                 |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
|                             |                    | STD                | 0400                | 1266                       | 3566                  | 2699                   | 0011308                         |              | 0615              |                   | 15071                 |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
|                             |                    | OR5                | 0425                | 1236                       | 35625                 | 2702                   |                                 |              |                   |                   | 15065                 |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
| 140                         |                    | STD                | 0500                | 1119                       | 3545                  | 2711                   | 0010851                         |              | 0728              |                   | 15034                 |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
|                             |                    | OR5                | T0532               | 1066                       | 35361                 | 2715                   |                                 |              |                   |                   | 15020                 |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
|                             |                    | STD                | 0600                | 0942                       | 3525                  | 2726                   | 0009460                         |              | 0829              |                   | 14985                 |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
| 140                         |                    | OR5                | 0635                | 0885                       | 35194                 | 2731                   |                                 |              |                   |                   | 14969                 |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
|                             |                    | STD                | 0703                | 0804                       | 3517                  | 2742                   | 0007939                         |              | 0916              |                   | 14948                 |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
|                             |                    | STD                | 0800                | 0694                       | 3514                  | 2756                   | 0005669                         |              | 0990              |                   | 14922                 |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
| 140                         |                    | OR5                | T0840               | 0655                       | 35122                 | 2760                   | 0005851                         |              | 1052              |                   | 14901                 |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
|                             |                    | STD                | 0900                | 0601                       | 3509                  | 2764                   |                                 |              |                   |                   | 14888                 |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
|                             |                    | STD                | 1000                | 0527                       | 3505                  | 2770                   | 0005299                         |              | 1108              |                   | 14884                 |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
| 140                         |                    | OR5                | 1051                | 0500                       | 35031                 | 2772                   |                                 |              |                   |                   | 14884                 |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
|                             |                    | STD                | 1103                | 0487                       | 3503                  | 2773                   | 0004988                         |              | 1159              |                   | 14887                 |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
|                             |                    | STD                | 1200                | 0464                       | 3502                  | 2776                   | 0004821                         |              | 1208              |                   | 14894                 |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
| 140                         |                    | STD                | 1300                | 0443                       | 3502                  | 2777                   | 0004704                         |              | 1256              |                   | 14902                 |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
|                             |                    | OR5                | T1310               | 0441                       | 35016                 | 2778                   |                                 |              |                   |                   | 14903                 |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
|                             |                    | STD                | 1400                | 0425                       | 3501                  | 2779                   | 0004620                         |              | 1303              |                   | 14911                 |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
| 140                         |                    | STD                | 1500                | 0409                       | 3500                  | 2780                   | 0004581                         |              | 1349              |                   | 14921                 |                                 |                      |                                 |                                 |                                   |                |        |                           |      |
|                             |                    | OR5                | T1589               | 0397                       | 34987                 | 2780                   |                                 |              |                   |                   | 14931                 |                                 |                      |                                 |                                 |                                   |                |        |                           |      |

| REFERENCE<br>CITY<br>CODE   | SHIP<br>ID.<br>NO. | SHIP<br>CODE  | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MARDEN<br>SQUARE     |                        | STATION TIME<br>(GMT) |                                 |         | YEAR                      | ORIGINATOR'S  |                         | DEPTH<br>TO<br>BOTTOM | MAX. DEPTH<br>OF<br>S.W.P.S.    | WAVE<br>OBSERVATIONS |                                 |                                 | WEA-<br>THER<br>CODE              | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |     |      |
|-----------------------------|--------------------|---------------|--------------------|---------------------|----------------------|------------------------|-----------------------|---------------------------------|---------|---------------------------|---------------|-------------------------|-----------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|----------------|---------------------------|-----|------|
|                             |                    |               |                    |                     | 10°                  | 1'                     | MO                    | DAY                             | HR.1/10 |                           | CRUISE<br>NO. | STATION<br>NUMBER       |                       |                                 | DIR.                 | HGT.                            | PER.                            |                                   |                |                           | SEA | TYH  |
| 311176                      | EN                 |               | 4400 N             | 04106 W             | 149                  | 41                     | 11                    | 31                              | 006     | 1957                      | 012           | 020                     | 4755                  |                                 | 04                   | 3                               | 3                               |                                   | 52             | 5                         | 5   | 0020 |
|                             |                    |               |                    |                     |                      |                        |                       |                                 |         |                           |               |                         |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |      |
|                             |                    | WATER         |                    | WIND                |                      | BARO-<br>METER<br>(mm) |                       | AIR TEMP. °C                    |         | NO. OF<br>DEPTHS          |               | SPECIAL<br>OBSERVATIONS |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |      |
|                             |                    | COLOR<br>CODE | TRANS.<br>INT.     | DIR.                | SPEED<br>OF<br>FORCE |                        |                       | DRY<br>BULB                     |         | WET<br>BULB               |               | VIS.<br>CODE            |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |      |
|                             |                    |               |                    |                     | 01                   | 513                    | 227                   | 156                             |         | 150                       |               | 7                       | 13                    |                                 |                      |                                 |                                 |                                   |                |                           |     |      |
| MESSAGE<br>TIME<br>HR. 1/10 | CAS-<br>T<br>NO.   | CARD<br>TYPE  | DEPTH<br>(m)       | T °C                | S ‰                  | SIGMA-T                |                       | SPECIFIC VOLUME<br>ANOMALY-STEP |         | Σ Δ D<br>DTN. M.<br>± 10° |               | SOUND<br>VELOCITY       | O <sub>2</sub> ml/l   | PO <sub>4</sub> -P<br>µg - ml/l | TOTAL-P<br>µg - ml/l | NO <sub>3</sub> -N<br>µg - ml/l | NO <sub>2</sub> -N<br>µg - ml/l | SiO <sub>4</sub> -Si<br>µg - ml/l | pH             |                           |     |      |
| 006                         |                    | STD           | 0000               | 1834                | 3566                 | 2571                   |                       | 0022423                         |         | 0000                      |               | 15183                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |      |
|                             |                    | OR5           | 0000               | 1834                | 35659                | 2571                   |                       |                                 |         |                           |               | 15183                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |      |
|                             |                    | STD           | 0010               | 1834                | 3566                 | 2571                   |                       | 0022490                         |         | 0022                      |               | 15184                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |      |
| 006                         |                    | STD           | 0020               | 1835                | 3567                 | 2571                   |                       | 0022946                         |         | 0045                      |               | 15186                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |      |
|                             |                    | OR5           | 0021               | 1825                | 35669                | 2571                   |                       |                                 |         |                           |               | 15186                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |      |
|                             |                    | STD           | 0030               | 1838                | 3568                 | 2571                   |                       | 0022990                         |         | 0068                      |               | 15189                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |      |
| 006                         |                    | OR5           | 0044               | 1835                | 35685                | 2572                   |                       |                                 |         |                           |               | 15191                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |      |
|                             |                    | STD           | 0050               | 1835                | 3583                 | 2594                   |                       | 0021361                         |         | 0113                      |               | 15193                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |      |
|                             |                    | STD           | 0075               | 1815                | 3628                 | 2623                   |                       | 0013219                         |         | 0163                      |               | 15197                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |      |
| 006                         |                    | OR5           | 0091               | 18530               | 36447                | 26250                  |                       |                                 |         |                           |               |                         |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |      |
|                             |                    | STD           | 0100               | 1788                | 3645                 | 2643                   |                       | 0016447                         |         | 0207                      |               | 15195                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |      |
|                             |                    | STD           | 0125               | 1752                | 3644                 | 2651                   |                       | 0017715                         |         | 0247                      |               | 15189                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |      |
| 006                         |                    | OR5           | 0151               | 1742                | 36444                | 2654                   |                       |                                 |         |                           |               | 15187                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |      |
|                             |                    | STD           | 0150               | 1704                | 3637                 | 2657                   |                       | 0015298                         |         | 0260                      |               | 15178                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |      |
|                             |                    | OR5           | 0200               | 1657                | 36274                | 2661                   |                       |                                 |         |                           |               | 15167                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |      |
| 006                         |                    | STD           | 0210               | 1604                | 3613                 | 2666                   |                       | 0014510                         |         | 0350                      |               | 15154                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |      |
|                             |                    | STD           | 0250               | 1512                | 3602                 | 2675                   |                       | 0013621                         |         | 0431                      |               | 15131                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |      |
|                             |                    | OR5           | 0260               | 1495                | 35942                | 2676                   |                       |                                 |         |                           |               | 15127                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |      |
| 006                         |                    | STD           | 0300               | 1427                | 3587                 | 2682                   |                       | 0013274                         |         | 0499                      |               | 15110                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |      |
|                             |                    | OR5           | 0346               | 1369                | 35778                | 2687                   |                       |                                 |         |                           |               | 15098                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |      |
|                             |                    | STD           | 0400               | 1347                | 3577                 | 2691                   |                       | 0012074                         |         | 0628                      |               | 15039                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |      |
| 006                         |                    | OR5           | 10431              | 1315                | 35758                | 2697                   |                       |                                 |         |                           |               | 15094                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |      |
|                             |                    | STD           | 0500               | 1189                | 3550                 | 2702                   |                       | 0011765                         |         | 0751                      |               | 15059                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |      |
|                             |                    | OR5           | 0516               | 1157                | 35445                | 2703                   |                       |                                 |         |                           |               | 15050                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |      |
| 006                         |                    | STD           | 0600               | 0986                | 3531                 | 2724                   |                       | 0009743                         |         | 0858                      |               | 15031                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |      |
|                             |                    | STD           | 0700               | 0812                | 3517                 | 2741                   |                       | 0006037                         |         | 0947                      |               | 14951                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |      |
|                             |                    | STD           | 0800               | 0673                | 3508                 | 2754                   |                       | 0006830                         |         | 1021                      |               | 14913                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |      |
| 006                         |                    | OR5           | 0865               | 0602                | 35031                | 2760                   |                       |                                 |         |                           |               | 14845                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |      |
|                             |                    | STD           | 0900               | 0578                | 3537                 | 2762                   |                       | 0006018                         |         | 1036                      |               | 14831                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |      |
|                             |                    | STD           | 1000               | 0514                | 3501                 | 2768                   |                       | 0005473                         |         | 1143                      |               | 14883                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |      |
| 006                         |                    | OR5           | 11099              | 0474                | 34991                | 2772                   |                       |                                 |         |                           |               | 14881                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |      |
|                             |                    | STD           | 1100               | 0474                | 3499                 | 2772                   |                       | 0005035                         |         | 1196                      |               | 14881                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |      |
|                             |                    | STD           | 1200               | 0441                | 3493                 | 2775                   |                       | 0004845                         |         | 1246                      |               | 14884                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |      |
| 006                         |                    | STD           | 1300               | 0422                | 3487                 | 2776                   |                       | 0004754                         |         | 1294                      |               | 14833                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |      |
|                             |                    | OR5           | 11357              | 0417                | 34859                | 2776                   |                       |                                 |         |                           |               | 14930                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |     |      |



TABLE III.—Continued

| REFERENCE<br>SHIP<br>CODE | SHIP<br>CODE | LATITUDE<br>° ' 10 | LONGITUDE<br>° ' 10 | MARS DEN<br>SQUARE | STATION TIME<br>(GMT) |    |               | YEAR | ORIGINATOR'S  |                   | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>S.W.P.S. | WAVE<br>OBSERVATIONS |     |     | CLOUD<br>CODES | WDC<br>STATION<br>NUMBER |
|---------------------------|--------------|--------------------|---------------------|--------------------|-----------------------|----|---------------|------|---------------|-------------------|-----------------------|---------------------------------|----------------------|-----|-----|----------------|--------------------------|
|                           |              |                    |                     |                    | 10'                   | 1' | MO DAY HR. 10 |      | CRUISE<br>NO. | STATION<br>NUMBER |                       |                                 | DR.                  | HGT | PER | SEA            |                          |

| MESSAGE<br>TIME<br>HR 1/10 | CAS<br>NO. | CARD<br>TYPE | DEPTH<br>m | 1 °C | 5 %   | SIGMA-T | SPECIFIC VOLUME<br>ANOMALY- $\sigma_t$ | $\Sigma \Delta \sigma$<br>OBS. M.<br>$\pm 10^3$ | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>2</sub> -P<br>pg - ml/l | TOTAL-P<br>pg - ml/l | NO <sub>2</sub> -N<br>pg - ml/l | NO <sub>3</sub> -N<br>pg - ml/l | SiO <sub>4</sub> -Si<br>pg - ml/l | pH | CL |
|----------------------------|------------|--------------|------------|------|-------|---------|--|---|-------------------|---------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|----|----|
|                            |            | STD          | 0000       | 1831 | 3501  | 2508    | 0023231                                | 0000  | 15181             |                     |                                 |                      |                                 |                                 |                                   |    |    |
| 135                        |            | OBS          | 0000       | 1831 | 35007 | 2508    |  |   | 15181             |                     |                                 |                      |                                 |                                 |                                   |    |    |
|                            |            | STD          | 0010       | 1831 | 3562  | 2569    | 0023165                                | 0023  | 15183             |                     |                                 |                      |                                 |                                 |                                   |    |    |
|                            |            | STD          | 0020       | 1830 | 3503  | 2570    | 0023100                                | 0046  | 15184             |                     |                                 |                      |                                 |                                 |                                   |    |    |
| 135                        |            | OBS          | 0023       | 1830 | 35035 | 2570    |  |   | 15185             |                     |                                 |                      |                                 |                                 |                                   |    |    |
|                            |            | STD          | 0030       | 1840 | 3509  | 2572    | 0022963                                | 0069  | 15189             |                     |                                 |                      |                                 |                                 |                                   |    |    |
| 135                        |            | OBS          | 0045       | 1846 | 35789 | 2578    |  |   | 15195             |                     |                                 |                      |                                 |                                 |                                   |    |    |
|                            |            | STD          | 0050       | 1831 | 3584  | 2586    | 0021709                                | 0114  | 15192             |                     |                                 |                      |                                 |                                 |                                   |    |    |
|                            |            | STD          | 0075       | 1766 | 3505  | 2618    | 0018675                                | 0164  | 15180             |                     |                                 |                      |                                 |                                 |                                   |    |    |
| 135                        |            | OBS          | 0096       | 1722 |       |         |  |   |                   |                     |                                 |                      |                                 |                                 |                                   |    |    |
|                            |            | STD          | 0100       | 1718 | 3620  | 2641    | 0016619                                | 0208  | 15172             |                     |                                 |                      |                                 |                                 |                                   |    |    |
|                            |            | STD          | 0125       | 1688 | 3627  | 2654    | 0015487                                | 0248  | 15168             |                     |                                 |                      |                                 |                                 |                                   |    |    |
| 135                        |            | OBS          | 0141       | 1664 | 36278 | 2600    |  |   | 15163             |                     |                                 |                      |                                 |                                 |                                   |    |    |
|                            |            | STD          | 0150       | 1645 | 3624  | 2602    | 0014811                                | 0280  | 15159             |                     |                                 |                      |                                 |                                 |                                   |    |    |
| 135                        |            | OBS          | T0191      | 1570 | 35110 | 2669    |  |   | 15141             |                     |                                 |                      |                                 |                                 |                                   |    |    |
|                            |            | STD          | 0200       | 1559 | 3609  | 2670    | 0014162                                | 0359  | 15138             |                     |                                 |                      |                                 |                                 |                                   |    |    |
|                            |            | STD          | 0250       | 1498 | 3600  | 2676    | 0013699                                | 0428  | 15127             |                     |                                 |                      |                                 |                                 |                                   |    |    |
| 135                        |            | OBS          | 0277       | 1468 | 35952 | 2679    |  |   | 15121             |                     |                                 |                      |                                 |                                 |                                   |    |    |
|                            |            | STD          | 0300       | 1445 | 3592  | 2682    | 0013203                                | 0496  | 15117             |                     |                                 |                      |                                 |                                 |                                   |    |    |
| 135                        |            | OBS          | 0367       | 1378 | 35828 | 2689    |  |   | 15105             |                     |                                 |                      |                                 |                                 |                                   |    |    |
|                            |            | STD          | 0400       | 1344 | 3578  | 2693    | 0012501                                | 0625  | 15099             |                     |                                 |                      |                                 |                                 |                                   |    |    |
| 135                        |            | OBS          | T0462      | 1281 | 35696 | 2699    |  |   | 15037             |                     |                                 |                      |                                 |                                 |                                   |    |    |
|                            |            | STD          | 0500       | 1040 | 3519  | 2705    | 0011349                                | 0744  | 15003             |                     |                                 |                      |                                 |                                 |                                   |    |    |
| 135                        |            | OBS          | 0543       | 0828 | 34766 | 2707    |  |   | 14926             |                     |                                 |                      |                                 |                                 |                                   |    |    |
|                            |            | STD          | 0600       | 0759 | 3478  | 2718    | 0009955                                | 0850  | 14909             |                     |                                 |                      |                                 |                                 |                                   |    |    |
|                            |            | STD          | 0700       | 0666 | 3481  | 2734    | 0008551                                | 0943  | 14890             |                     |                                 |                      |                                 |                                 |                                   |    |    |
| 135                        |            | OBS          | T0725      | 0649 | 34810 | 2736    |  |   | 14887             |                     |                                 |                      |                                 |                                 |                                   |    |    |
|                            |            | STD          | 0800       | 0625 | 3493  | 2748    | 0007252                                | 1022  | 14892             |                     |                                 |                      |                                 |                                 |                                   |    |    |
| 135                        |            | OBS          | 0895       | 0591 | 35019 | 2760    |  |   | 14895             |                     |                                 |                      |                                 |                                 |                                   |    |    |
|                            |            | STD          | 0900       | 0589 | 3502  | 2760    | 0006190                                | 1089  | 14895             |                     |                                 |                      |                                 |                                 |                                   |    |    |
|                            |            | STD          | 1000       | 0544 | 3503  | 2760    | 0005653                                | 1148  | 14894             |                     |                                 |                      |                                 |                                 |                                   |    |    |
|                            |            | STD          | 1100       | 0504 | 3503  | 2772    | 0005168                                | 1203  | 14894             |                     |                                 |                      |                                 |                                 |                                   |    |    |
| 135                        |            | OBS          | T1135      | 0491 | 35034 | 2773    |  |   | 14895             |                     |                                 |                      |                                 |                                 |                                   |    |    |
|                            |            | STD          | 1200       | 0469 | 3503  | 2775    | 0004870                                | 1253  | 14897             |                     |                                 |                      |                                 |                                 |                                   |    |    |
|                            |            | STD          | 1300       | 0440 | 3501  | 2777    | 0004738                                | 1301  | 14901             |                     |                                 |                      |                                 |                                 |                                   |    |    |
| 135                        |            | OBS          | T1393      | 0417 | 34977 | 2777    |  |   | 14907             |                     |                                 |                      |                                 |                                 |                                   |    |    |

| REFERENCE<br>SHIP<br>CODE | SHIP<br>CODE | LATITUDE<br>° ' 10 | LONGITUDE<br>° ' 10 | MARS DEN<br>SQUARE | STATION TIME<br>(GMT) |    |               | YEAR | ORIGINATOR'S  |                   | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>S.W.P.S. | WAVE<br>OBSERVATIONS |     |     | CLOUD<br>CODES | WDC<br>STATION<br>NUMBER |
|---------------------------|--------------|--------------------|---------------------|--------------------|-----------------------|----|---------------|------|---------------|-------------------|-----------------------|---------------------------------|----------------------|-----|-----|----------------|--------------------------|
|                           |              |                    |                     |                    | 10'                   | 1' | MO DAY HR. 10 |      | CRUISE<br>NO. | STATION<br>NUMBER |                       |                                 | DR.                  | HGT | PER | SEA            |                          |

| 311176                     |  |            |              |            |      |       |         |  |      |  |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|----------------------------|--|------------|--------------|------------|------|-------|---------|--|------|--|-------------------|---------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|----|
| MESSAGE<br>TIME<br>HR 1/10 |  | CAS<br>NO. | CARD<br>TYPE | DEPTH<br>m | 1 °C | 5 %   | SIGMA-T | SPECIFIC VOLUME<br>ANOMALY- $\sigma_t$ |      | $\Sigma \Delta \sigma$<br>OBS. N. M.<br>$\pm 10^3$ | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>2</sub> -P<br>pg - ml/l | TOTAL-P<br>pg - ml/l | NO <sub>2</sub> -N<br>pg - ml/l | NO <sub>3</sub> -N<br>pg - ml/l | SiO <sub>4</sub> -Si<br>pg - ml/l | pH |
|                            |  |            | STD          | 0000       | 1817 | 3571  | 2579    | 0022170                                | 0000 | 15178  |                   |                     |                                 |                      |                                 |                                 |                                   |    |
| 123                        |  |            | OBS          | 0000       | 1817 | 35707 | 2579    |  |      | 15178  |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                            |  |            | STD          | 0010       | 1818 | 3571  | 2579    | 0022223                                | 0022 | 15180  |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                            |  |            | STD          | 0020       | 1819 | 3571  | 2579    | 0022275                                | 0044 | 15182  |                   |                     |                                 |                      |                                 |                                 |                                   |    |
| 123                        |  |            | OBS          | 0023       | 1819 | 35709 | 2579    |  |      | 15183  |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                            |  |            | STD          | 0030       | 1820 | 3571  | 2578    | 0022320                                | 0060 | 15184  |                   |                     |                                 |                      |                                 |                                 |                                   |    |
| 123                        |  |            | OBS          | 0046       | 1821 | 35709 | 2578    |  |      | 15187  |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                            |  |            | STD          | 0050       | 1819 | 3575  | 2581    | 0022100                                | 0111 | 15188  |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                            |  |            | STD          | 0075       | 1795 | 3613  | 2610    | 0013859                                | 0162 | 15190  |                   |                     |                                 |                      |                                 |                                 |                                   |    |
| 123                        |  |            | OBS          | 0094       | 1775 | 36309 | 2635    |  |      | 15189  |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                            |  |            | STD          | 0100       | 1768 | 3632  | 2638    | 0016943                                | 0207 | 15188  |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                            |  |            | STD          | 0125       | 1734 | 3634  | 2648    | 0016029                                | 0246 | 15182  |                   |                     |                                 |                      |                                 |                                 |                                   |    |
| 123                        |  |            | OBS          | 0135       | 1716 | 36355 | 2653    |  |      | 15179  |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                            |  |            | STD          | 0150       | 1688 | 3631  | 2657    | 0015290                                | 0287 | 15172  |                   |                     |                                 |                      |                                 |                                 |                                   |    |
| 123                        |  |            | OBS          | T0162      | 1624 | 36207 | 2664    |  |      | 15157  |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                            |  |            | STD          | 0200       | 1584 | 3614  | 2668    | 0014386                                | 0361 | 15147  |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                            |  |            | STD          | 0250       | 1486 | 3596  | 2676    | 0013094                                | 0431 | 15122  |                   |                     |                                 |                      |                                 |                                 |                                   |    |
| 123                        |  |            | OBS          | 0260       | 1459 | 35914 | 2678    |  |      | 15116  |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                            |  |            | STD          | 0300       | 1426 | 3583  | 2679    | 0013571                                | 0500 | 15110  |                   |                     |                                 |                      |                                 |                                 |                                   |    |
| 123                        |  |            | OBS          | 0350       |      | 35715 |         |  |      |  |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                            |  |            | STD          | 0400       | 1326 | 3561  | 2633    | 0013376                                | 0634 | 15091  |                   |                     |                                 |                      |                                 |                                 |                                   |    |
| 123                        |  |            | OBS          | T0424      | 1301 | 35580 | 2686    |  |      | 15086  |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                            |  |            | STD          | 0500       | 1223 | 3558  | 2701    | 0011881                                | 0761 | 15072  |                   |                     |                                 |                      |                                 |                                 |                                   |    |
| 123                        |  |            | OBS          | 0508       | 1210 | 35564 | 2703    |  |      | 15069  |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                            |  |            | STD          | 0600       | 0900 | 3506  | 2718    | 0010115                                | 0871 | 14960  |                   |                     |                                 |                      |                                 |                                 |                                   |    |
| 123                        |  |            | OBS          | T0659      | 0770 | 34904 | 2726    |  |      | 14925  |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                            |  |            | STD          | 0700       | 0747 | 3493  | 2735    | 0009534                                | 0904 | 14924  |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                            |  |            | STD          | 0800       | 0637 | 3503  | 2753    | 0006927                                | 1041 | 14919  |                   |                     |                                 |                      |                                 |                                 |                                   |    |
| 123                        |  |            | OBS          | 0810       | 0601 | 35029 | 2754    |  |      | 14918  |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                            |  |            | STD          | 0900       | 0613 | 3508  | 2762    | 0006384                                | 1106 | 14900  |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                            |  |            | STD          | 1000       | 0550 | 3506  | 2768    | 0005499                                | 1164 | 14897  |                   |                     |                                 |                      |                                 |                                 |                                   |    |
| 123                        |  |            | OBS          | T1022      | 0538 | 35054 | 2769    |  |      | 14895  |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                            |  |            | STD          | 1100       | 0500 | 3504  | 2772    | 0009100                                | 1217 | 14893  |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                            |  |            | STD          | 1200       | 0469 | 3501  | 2775    | 0004997                                | 1267 | 14894  |                   |                     |                                 |                      |                                 |                                 |                                   |    |
| 123                        |  |            | OBS          | T1255      | 0448 | 34998 | 2775    |  |      | 14897  |                   |                     |                                 |                      |                                 |                                 |                                   |    |



TABLE IV.—Observed and interpolated oceanographic data for stations taken by USCGC OWASCO at Ocean Station DELTA, 30 November–15 December 1967, prepared from NODC listing No. 31-1184 OW.

| REFERENCE<br>STATION<br>CODE | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MO<br>10°  | DAY<br>11° | YEAR<br>1967 | ORIGINATOR'S                   |   | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPLES | WAVE<br>OBSERVATIONS                                     |   |  |  | WEA-<br>THER<br>CODE                                       | CLOUD<br>CODES       | NODC<br>STATION<br>NUMBER |   |   |      |  |
|------------------------------|--------------|--------------------|---------------------|------------|------------|--------------|--------------------------------|---|-----------------------|--------------------------------|--|---|--|--|--|----------------------|---------------------------|---|---|------|--|
|                              |              |                    |                     |            |            |              | CRUISE<br>NO.                  | STATION<br>NUMBER                             |                       |                                | DIR.   | NGT   | REF  | SEA  |  |                      |                           |   |   |      |  |
|                              |              |                    |                     |            |            |              |                                |   |                       |                                |  |   |  |  |  |                      |                           |   |   |      |  |
| 311184                       | DW           | 4410 N             | 04056 W             | 149        | 40         | 11           | 30                             | 173   | 1967                  | 013                            | 001  | 4572  | 12   | 14   | 1  | 3                    | 21                        | 5 | 8 | 0001 |  |
|                              |              |                    |                     | WATER      |            | WIND         |                                | BARO-<br>METER                                |                       | AIR TEMP. °C                   |  | VIL CODE                                      |  | NO. OBS. DEPTHS  |  | SPECIAL OBSERVATIONS |                           |   |   |      |  |
|                              |              |                    |                     | COLOR CODE | TRANS. (m) | DIR.         | SPEED OF FORCE (knot)          | DRY BULB                                      | WET BULB              |                                |  |   |  |  |  |                      |                           |   |   |      |  |
|                              |              |                    |                     |            |            | 17           | 511                            | 990   | 172                   | 172                            | 0  | 14  |  |  |  |                      |                           |   |   |      |  |
| MESSAGING<br>TIME<br>HR 1/10 | CASST<br>NO. | CARD<br>TYPE       | DEPTH (m)           | T °C       | S ‰        | SIGMA-T      | SPECIFIC VOLUME<br>ANOMALY-20° | $\Sigma \Delta D$<br>DTH. M.<br>$\times 10^3$ | SOUND<br>VELOCITY     | O <sub>2</sub> ml/l            | PO <sub>4</sub> -P<br>$\mu\text{g} \cdot \text{ml}^{-1}$ | TOTAL-P<br>$\mu\text{g} \cdot \text{ml}^{-1}$ | NO <sub>2</sub> -N<br>$\mu\text{g} \cdot \text{ml}^{-1}$ | NO <sub>3</sub> -N<br>$\mu\text{g} \cdot \text{ml}^{-1}$ | SIO <sub>4</sub> -Si<br>$\mu\text{g} \cdot \text{ml}^{-1}$ | pH                   | DATE                      |   |   |      |  |
|                              |              | STD                | 0000                | 1684       | 3572       | 2612         | 0018997                        | 0000  | 15139                 |                                |  |   |  |  |  |                      |                           |   |   |      |  |
| 173                          |              | OBS                | 0000                | 1684       | 35720      | 2612         |                                |   | 15139                 |                                |  |   |  |  |  |                      |                           |   |   |      |  |
|                              |              | STD                | 0010                | 1684       | 3574       | 2614         | 0018873                        | 0019  | 15141                 |                                |  |   |  |  |  |                      |                           |   |   |      |  |
|                              |              | STD                | 0020                | 1683       | 3576       | 2615         | 0018778                        | 0038  | 15143                 |                                |  |   |  |  |  |                      |                           |   |   |      |  |
| 173                          |              | OBS                | 0020                | 1683       | 35756      | 2615         |                                |   | 15143                 |                                |  |   |  |  |  |                      |                           |   |   |      |  |
|                              |              | STD                | 0030                | 1685       | 3576       | 2615         | 0018849                        | 0057  | 15145                 |                                |  |   |  |  |  |                      |                           |   |   |      |  |
| 173                          |              | OBS                | 0039                | 1686       | 35757      | 2615         |                                |   | 15147                 |                                |  |   |  |  |  |                      |                           |   |   |      |  |
|                              |              | STD                | 0050                | 1685       | 3576       | 2615         | 0018905                        | 0094  | 15148                 |                                |  |   |  |  |  |                      |                           |   |   |      |  |
| 173                          |              | OBS                | 0059                | 1684       | 35759      | 2615         |                                |   | 15150                 |                                |  |   |  |  |  |                      |                           |   |   |      |  |
|                              |              | STD                | 0075                | 1670       | 3579       | 2621         | 0018418                        | 0141  | 15148                 |                                |  |   |  |  |  |                      |                           |   |   |      |  |
| 173                          |              | OBS                | 0078                | 1667       | 35803      | 2623         |                                |   | 15148                 |                                |  |   |  |  |  |                      |                           |   |   |      |  |
|                              |              | STD                | 0100                | 1645       | 3603       | 2645         | 0016192                        | 0184  | 15148                 |                                |  |   |  |  |  |                      |                           |   |   |      |  |
|                              |              | STD                | 0125                | 1605       | 3613       | 2663         | 0014627                        | 0223  | 15141                 |                                |  |   |  |  |  |                      |                           |   |   |      |  |
| 173                          |              | OBS                | T0125               | 1605       | 36134      | 2663         |                                |   | 15141                 |                                |  |   |  |  |  |                      |                           |   |   |      |  |
|                              |              | STD                | 0150                | 1545       | 3603       | 2668         | 0014152                        | 0259  | 15125                 |                                |  |   |  |  |  |                      |                           |   |   |      |  |
| 173                          |              | OBS                | 0157                | 1530       | 36008      | 2670         |                                |   | 15121                 |                                |  |   |  |  |  |                      |                           |   |   |      |  |
|                              |              | STD                | 0200                | 1463       | 3590       | 2676         | 0013506                        | 0328  | 15106                 |                                |  |   |  |  |  |                      |                           |   |   |      |  |
| 173                          |              | OBS                | 0233                | 1425       | 35852      | 2681         |                                |   | 15099                 |                                |  |   |  |  |  |                      |                           |   |   |      |  |
|                              |              | STD                | 0250                | 1415       | 3585       | 2683         | 0013021                        | 0394  | 15098                 |                                |  |   |  |  |  |                      |                           |   |   |      |  |
|                              |              | STD                | 0300                | 1387       | 3584       | 2688         | 0012641                        | 0458  | 15097                 |                                |  |   |  |  |  |                      |                           |   |   |      |  |
| 173                          |              | OBS                | T0317               | 1377       | 35840      | 2690         |                                |   | 15097                 |                                |  |   |  |  |  |                      |                           |   |   |      |  |
| 173                          |              | OBS                | 0390                | 1335       | 35773      | 2694         |                                |   | 15094                 |                                |  |   |  |  |  |                      |                           |   |   |      |  |
|                              |              | STD                | 0400                | 1333       | 3577       | 2694         | 0012337                        | 0583  | 15095                 |                                |  |   |  |  |  |                      |                           |   |   |      |  |
| 173                          |              | OBS                | T0464               | 1322       | 35778      | 2697         |                                |   | 15102                 |                                |  |   |  |  |  |                      |                           |   |   |      |  |
|                              |              | STD                | 0500                | 1259       | 3569       | 2703         | 0011744                        | 0704  | 15086                 |                                |  |   |  |  |  |                      |                           |   |   |      |  |
|                              |              | STD                | 0600                | 1095       | 3545       | 2715         | 0010639                        | 0816  | 15042                 |                                |  |   |  |  |  |                      |                           |   |   |      |  |
| 173                          |              | OBS                | 0619                |            | 35407      |              |                                |   |                       |                                |  |   |  |  |  |                      |                           |   |   |      |  |
|                              |              | STD                | 0700                | 0948       | 3524       | 2725         | 0009799                        | 0918  | 15003                 |                                |  |   |  |  |  |                      |                           |   |   |      |  |
| 173                          |              | OBS                | T0755               | 0875       | 35144      | 2729         |                                |   | 14984                 |                                |  |   |  |  |  |                      |                           |   |   |      |  |
|                              |              | STD                | 0800                | 0819       | 3513       | 2737         | 0008667                        | 1010  | 14970                 |                                |  |   |  |  |  |                      |                           |   |   |      |  |
|                              |              | STD                | 0900                | 0706       | 3510       | 2751         | 0007315                        | 1090  | 14943                 |                                |  |   |  |  |  |                      |                           |   |   |      |  |
|                              |              | STD                | 1000                | 0610       | 3507       | 2761         | 0006286                        | 1158  | 14921                 |                                |  |   |  |  |  |                      |                           |   |   |      |  |
|                              |              | STD                | 1100                | 0531       | 3503       | 2769         | 0005542                        | 1217  | 14905                 |                                |  |   |  |  |  |                      |                           |   |   |      |  |
| 173                          |              | OBS                | T1165               | 0489       | 35013      | 2772         |                                |   | 14899                 |                                |  |   |  |  |  |                      |                           |   |   |      |  |

| REFERENCE<br>STATION<br>CODE | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MO<br>10°  | DAY<br>12° | YEAR<br>1967 | ORIGINATOR'S                   |   | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPLES | WAVE<br>OBSERVATIONS                                     |   |  |  | WEA-<br>THER<br>CODE                                       | CLOUD<br>CODES       | NODC<br>STATION<br>NUMBER |   |      |  |  |
|------------------------------|--------------|--------------------|---------------------|------------|------------|--------------|--------------------------------|---|-----------------------|--------------------------------|--|---|--|--|--|----------------------|---------------------------|---|------|--|--|
|                              |              |                    |                     |            |            |              | CRUISE<br>NO.                  | STATION<br>NUMBER                             |                       |                                | DIR.   | NGT   | REF  | SEA  |  |                      |                           |   |      |  |  |
|                              |              |                    |                     |            |            |              |                                |   |                       |                                |  |   |  |  |  |                      |                           |   |      |  |  |
| 311184                       | DW           | 4356 N             | 04101 W             | 149        | 31         | 12           | 01                             | 127   | 1967                  | 013                            | 002  | 4892  | 13   | 24   | 1  | 2                    | 6                         | 6 | 0002 |  |  |
|                              |              |                    |                     | WATER      |            | WIND         |                                | BARO-<br>METER                                |                       | AIR TEMP. °C                   |  | VIL CODE                                      |  | NO. OBS. DEPTHS  |  | SPECIAL OBSERVATIONS |                           |   |      |  |  |
|                              |              |                    |                     | COLOR CODE | TRANS. (m) | DIR.         | SPEED OF FORCE (knot)          | DRY BULB                                      | WET BULB              |                                |  |   |  |  |  |                      |                           |   |      |  |  |
|                              |              |                    |                     |            |            | 26           | 521                            | 091   | 183                   | 122                            | 7  | 14  |  |  |  |                      |                           |   |      |  |  |
| MESSAGING<br>TIME<br>HR 1/10 | CASST<br>NO. | CARD<br>TYPE       | DEPTH (m)           | T °C       | S ‰        | SIGMA-T      | SPECIFIC VOLUME<br>ANOMALY-20° | $\Sigma \Delta D$<br>DTH. M.<br>$\times 10^3$ | SOUND<br>VELOCITY     | O <sub>2</sub> ml/l            | PO <sub>4</sub> -P<br>$\mu\text{g} \cdot \text{ml}^{-1}$ | TOTAL-P<br>$\mu\text{g} \cdot \text{ml}^{-1}$ | NO <sub>2</sub> -N<br>$\mu\text{g} \cdot \text{ml}^{-1}$ | NO <sub>3</sub> -N<br>$\mu\text{g} \cdot \text{ml}^{-1}$ | SIO <sub>4</sub> -Si<br>$\mu\text{g} \cdot \text{ml}^{-1}$ | pH                   | DATE                      |   |      |  |  |
|                              |              | STD                | 0000                | 1669       | 3574       | 2617         | 0018514                        | 0000  | 15135                 |                                |  |   |  |  |  |                      |                           |   |      |  |  |
| 127                          |              | OBS                | 0000                | 1669       | 35740      | 2617         |                                |   | 15135                 |                                |  |   |  |  |  |                      |                           |   |      |  |  |
|                              |              | STD                | 0010                | 1670       | 3574       | 2617         | 0018567                        | 0019  | 15137                 |                                |  |   |  |  |  |                      |                           |   |      |  |  |
|                              |              | STD                | 0020                | 1671       | 3574       | 2617         | 0018618                        | 0037  | 15139                 |                                |  |   |  |  |  |                      |                           |   |      |  |  |
| 127                          |              | OBS                | 0023                | 1671       | 35737      | 2617         |                                |   | 15139                 |                                |  |   |  |  |  |                      |                           |   |      |  |  |
|                              |              | STD                | 0030                | 1672       | 3574       | 2617         | 0018680                        | 0056  | 15141                 |                                |  |   |  |  |  |                      |                           |   |      |  |  |
| 127                          |              | OBS                | 0045                | 1673       | 35742      | 2617         |                                |   | 15144                 |                                |  |   |  |  |  |                      |                           |   |      |  |  |
|                              |              | STD                | 0050                | 1673       | 3574       | 2617         | 0018741                        | 0093  | 15144                 |                                |  |   |  |  |  |                      |                           |   |      |  |  |
| 127                          |              | OBS                | 0069                | 1672       | 35748      | 2617         |                                |   | 15147                 |                                |  |   |  |  |  |                      |                           |   |      |  |  |
|                              |              | STD                | 0075                | 1686       | 3591       | 2626         | 0017907                        | 0139  | 15155                 |                                |  |   |  |  |  |                      |                           |   |      |  |  |
| 127                          |              | OBS                | 0090                | 1705       | 36215      | 2645         |                                |   | 15166                 |                                |  |   |  |  |  |                      |                           |   |      |  |  |
|                              |              | STD                | 0100                | 1688       | 3621       | 2649         | 0015883                        | 0181  | 15163                 |                                |  |   |  |  |  |                      |                           |   |      |  |  |
|                              |              | STD                | 0125                | 1640       | 3618       | 2658         | 0015050                        | 0220  | 15152                 |                                |  |   |  |  |  |                      |                           |   |      |  |  |
| 127                          |              | OBS                | T0136               | 1618       | 36172      | 2662         |                                |   | 15147                 |                                |  |   |  |  |  |                      |                           |   |      |  |  |
|                              |              | STD                | 0150                | 1583       | 3611       | 2666         | 0014397                        | 0257  | 15138                 |                                |  |   |  |  |  |                      |                           |   |      |  |  |
| 127                          |              | OBS                | T0173               | 1535       | 36022      | 2670         |                                |   | 15126                 |                                |  |   |  |  |  |                      |                           |   |      |  |  |
|                              |              | STD                | 0200                | 1508       | 3596       | 2671         | 0014021                        | 0328  | 15121                 |                                |  |   |  |  |  |                      |                           |   |      |  |  |
|                              |              | STD                | 0250                | 1456       | 3587       | 2676         | 0013727                        | 0397  | 15112                 |                                |  |   |  |  |  |                      |                           |   |      |  |  |
| 127                          |              | OBS                | 0256                | 1450       | 35861      | 2676         |                                |   | 15111                 |                                |  |   |  |  |  |                      |                           |   |      |  |  |
|                              |              | STD                | 0300                | 1399       | 3584       | 2686         | 0012909                        | 0464  | 15101                 |                                |  |   |  |  |  |                      |                           |   |      |  |  |
| 127                          |              | OBS                | T0330               | 1372       | 35827      | 2690         |                                |   | 15097                 |                                |  |   |  |  |  |                      |                           |   |      |  |  |
|                              |              | STD                | 0400                | 1334       | 3576       | 2693         | 0012453                        | 0591  | 15095                 |                                |  |   |  |  |  |                      |                           |   |      |  |  |
| 127                          |              | OBS                | 0408                | 1330       | 35755      | 2693         |                                |   | 15095                 |                                |  |   |  |  |  |                      |                           |   |      |  |  |
| 127                          |              | OBS                | T0490               | 1302       | 35739      | 2698         |                                |   | 15099                 |                                |  |   |  |  |  |                      |                           |   |      |  |  |
|                              |              | STD                | 0500                | 1283       | 3571       | 2699         | 0012070                        | 0713  | 15094                 |                                |  |   |  |  |  |                      |                           |   |      |  |  |
|                              |              | STD                | 0600                | 1100       | 3542       | 2712         | 0010950                        | 0828  | 15044                 |                                |  |   |  |  |  |                      |                           |   |      |  |  |
| 127                          |              | OBS                | 0634                | 1041       | 35336      | 2716         |                                |   | 15027                 |                                |  |   |  |  |  |                      |                           |   |      |  |  |
|                              |              | STD                | 0700                | 0928       | 3521       | 2726         | 0007680                        | 0931  | 14995                 |                                |  |   |  |  |  |                      |                           |   |      |  |  |
|                              |              | STD                | 0800                | 0780       | 3506       | 2737         | 0008564                        | 1023  | 14954                 |                                |  |   |  |  |  |                      |                           |   |      |  |  |
| 127                          |              | OBS                | T0805               | 0773       | 35049      | 2737         |                                |   | 14952                 |                                |  |   |  |  |  |                      |                           |   |      |  |  |
|                              |              | STD                | 0900                | 0659       | 3504       | 2753         | 0007058                        | 1101  | 14923                 |                                |  |   |  |  |  |                      |                           |   |      |  |  |
|                              |              | STD                | 1000                | 0566       | 3503       | 2764         | 0005959                        | 1166  | 14903                 |                                |  |   |  |  |  |                      |                           |   |      |  |  |
|                              |              | STD                | 1100                | 0500       | 3501       | 2771         | 0005268                        | 1222  | 14892                 |                                |  |   |  |  |  |                      |                           |   |      |  |  |
|                              |              | STD                | 1200                | 0461       | 3500       | 2774         | 0004946                        | 1273  | 14893                 |                                |  |   |  |  |  |                      |                           |   |      |  |  |
|                              |              | STD                | 1300                | 0451       | 3499       | 2774         | 0005005                        | 1323  | 14905                 |                                |  |   |  |  |  |                      |                           |   |      |  |  |
| 127                          |              | OBS                | T1311               | 0451       | 34989      | 2774         |                                |   | 14907                 |                                |  |   |  |  |  |                      |                           |   |      |  |  |



TABLE IV.—Continued

| REFERENCE<br>CIR<br>CODE    | SHIP<br>CODE | LATITUDE<br>°<br>1/10 | LONGITUDE<br>°<br>1/10 | MARS<br>DEN<br>SQUARE | STATION TIME<br>(GMT) |              |                                |                      |                           | YEAR              | ORIGINATOR'S        |                                 | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>S'WAMP   | WAVE<br>OBSERVATIONS            |                                   |    |    | WEA-<br>THER<br>CODE | CLOUD<br>CODES<br>TYPE<br>AMT | NOQC<br>STATION<br>NUMBER |
|-----------------------------|--------------|-----------------------|------------------------|-----------------------|-----------------------|--------------|--------------------------------|----------------------|---------------------------|-------------------|---------------------|---------------------------------|-----------------------|---------------------------------|---------------------------------|-----------------------------------|----|----|----------------------|-------------------------------|---------------------------|
|                             |              |                       |                        |                       | 10'                   | 1'           | MO                             | DAY                  | HR. 1/10                  |                   | CRUISE<br>NO.       | STATION<br>NUMBER               |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              |                       |                        |                       | 10'                   | 1'           | MO                             | DAY                  | HR. 1/10                  |                   | CRUISE<br>NO.       | STATION<br>NUMBER               |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
| 311184                      | DW           | 4403 N                | 04105 W                | 149                   | 41                    | 12           | 03                             | 123                  | 1967                      | 013               | 003                 | 4572                            | 14                    | 15                              | 4                               | 2                                 |    |    | 6                    | 6                             | 0003                      |
|                             |              |                       |                        |                       | WATER                 |              | WIND                           |                      | BARO-<br>METER            |                   | AIR TEMP. °C        |                                 | VIS. CODE             | NO. DEPTHS                      | SPECIAL<br>OBSERVATIONS         |                                   |    |    |                      |                               |                           |
|                             |              |                       |                        |                       | COLOR<br>CODE         | TRANS.<br>MT | DIR.                           | SPEED<br>OF<br>FORCE | MMHG                      | DRY<br>BULB       | WET<br>BULB         | NO. DEPTHS                      |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              |                       |                        |                       |                       | 14           | 510                            | 130                  | 177                       | 172               | 7                   | 14                              |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
| MESSAGE<br>TIME<br>HR. 1/10 | CAS<br>NO.   | CARD<br>TYPE          | DEPTH (m)              | T °C                  | S %                   | SIGMA-T      | SPECIFIC VOLUME<br>ANOMALY-20° |                      | S Δ D<br>DYN. M.<br>± 10' | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>2</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l  | NO <sub>2</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>2</sub> -Si<br>μg - ml/l | pH | °C |                      |                               |                           |
| 123                         |              | STD                   | 0000                   | 1703                  | 3578                  | 2612         | 0018991                        | 0000                 | 15146                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | OBS                   | 0000                   | 1703                  | 3578                  | 2612         |                                |                      | 15146                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 0010                   | 1701                  | 3578                  | 2612         | 0019007                        | 0019                 | 15147                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 0020                   | 1696                  | 3577                  | 2613         | 0018956                        | 0038                 | 15147                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
| 123                         |              | OBS                   | 0023                   | 1695                  | 3577                  | 2614         |                                |                      | 15147                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 0030                   | 1690                  | 3577                  | 2615         | 0018868                        | 0057                 | 15147                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
| 123                         |              | OBS                   | 0046                   | 1679                  | 3578                  | 2616         |                                |                      | 15146                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 0050                   | 1676                  | 3576                  | 2617         | 0018689                        | 0094                 | 15146                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
| 123                         |              | OBS                   | 0068                   | 1669                  | 3576                  | 2619         |                                |                      | 15147                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 0075                   | 1669                  | 3577                  | 2619         | 0018555                        | 0141                 | 15148                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
| 123                         |              | OBS                   | 0091                   | 1669                  | 3578                  | 2620         |                                |                      | 15151                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 0100                   | 1668                  | 3593                  | 2632         | 0017431                        | 0186                 | 15153                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 0125                   | 1665                  | 3621                  | 2654         | 0015406                        | 0227                 | 15160                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
| 123                         |              | OBS                   | T0137                  | 1663                  | 3626                  | 2659         |                                |                      | 15162                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 0150                   | 1628                  | 3619                  | 2661         | 0014811                        | 0265                 | 15153                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
| 123                         |              | OBS                   | 0181                   | 1554                  | 3605                  | 2668         |                                |                      | 15133                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 0200                   | 1514                  | 3599                  | 2672         | 0013931                        | 0337                 | 15123                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 0250                   | 1430                  | 3586                  | 2680         | 0013258                        | 0405                 | 15103                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
| 123                         |              | OBS                   | 0271                   | 1405                  | 3582                  | 2683         |                                |                      | 15098                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 0300                   | 1390                  | 3582                  | 2686         | 0012870                        | 0470                 | 15098                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
| 123                         |              | OBS                   | T0363                  | 1360                  | 3580                  | 2691         |                                |                      | 15098                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 0400                   | 1352                  | 3580                  | 2692         | 0012525                        | 0597                 | 15102                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
| 123                         |              | OBS                   | 0451                   | 1327                  | 3577                  | 2696         |                                |                      | 15101                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 0500                   | 1288                  | 3572                  | 2699         | 0012097                        | 0720                 | 15096                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
| 123                         |              | OBS                   | T0537                  | 1248                  | 3565                  | 2702         |                                |                      | 15088                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 0600                   | 1128                  | 3546                  | 2710         | 0011173                        | 0836                 | 15054                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 0700                   | 0955                  | 3522                  | 2722         | 0010065                        | 0943                 | 15005                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
| 123                         |              | OBS                   | 0721                   | 0921                  | 3518                  | 2725         |                                |                      | 14996                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 0800                   | 0801                  | 3512                  | 2739         | 0008447                        | 1035                 | 14963                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 0900                   | 0673                  | 3504                  | 2751         | 0007219                        | 1113                 | 14929                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
| 123                         |              | OBS                   | 0901                   | 0672                  | 3504                  | 2751         |                                |                      | 14929                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 1000                   | 0622                  | 3503                  | 2757         | 0006730                        | 1183                 | 14925                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 1100                   | 0571                  | 3501                  | 2762         | 0006247                        | 1248                 | 14921                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 1200                   | 0520                  | 3500                  | 2767         | 0005768                        | 1308                 | 14917                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 1300                   | 0469                  | 3498                  | 2772         | 0005293                        | 1363                 | 14912                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
| 123                         |              | OBS                   | T1358                  | 0439                  | 3497                  | 2775         |                                |                      | 14910                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |

| REFERENCE<br>CIR<br>CODE    | SHIP<br>CODE | LATITUDE<br>°<br>1/10 | LONGITUDE<br>°<br>1/10 | MARS<br>DEN<br>SQUARE | STATION TIME<br>(GMT) |              |                                |                      |                           | YEAR              | ORIGINATOR'S        |                                 | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>S'WAMP   | WAVE<br>OBSERVATIONS            |                                   |    |    | WEA-<br>THER<br>CODE | CLOUD<br>CODES<br>TYPE<br>AMT | NOQC<br>STATION<br>NUMBER |
|-----------------------------|--------------|-----------------------|------------------------|-----------------------|-----------------------|--------------|--------------------------------|----------------------|---------------------------|-------------------|---------------------|---------------------------------|-----------------------|---------------------------------|---------------------------------|-----------------------------------|----|----|----------------------|-------------------------------|---------------------------|
|                             |              |                       |                        |                       | 10'                   | 1'           | MO                             | DAY                  | HR. 1/10                  |                   | CRUISE<br>NO.       | STATION<br>NUMBER               |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              |                       |                        |                       | 10'                   | 1'           | MO                             | DAY                  | HR. 1/10                  |                   | CRUISE<br>NO.       | STATION<br>NUMBER               |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
| 311184                      | DW           | 4337 N                | 04040 W                | 149                   | 30                    | 12           | 08                             | 128                  | 1967                      | 013               | 004                 | 4572                            | 16                    | 14                              | 4                               | 2                                 |    |    | 6                    | 8                             | 0004                      |
|                             |              |                       |                        |                       | WATER                 |              | WIND                           |                      | BARO-<br>METER            |                   | AIR TEMP. °C        |                                 | VIS. CODE             | NO. DEPTHS                      | SPECIAL<br>OBSERVATIONS         |                                   |    |    |                      |                               |                           |
|                             |              |                       |                        |                       | COLOR<br>CODE         | TRANS.<br>MT | DIR.                           | SPEED<br>OF<br>FORCE | MMHG                      | DRY<br>BULB       | WET<br>BULB         | NO. DEPTHS                      |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              |                       |                        |                       |                       | 14           | 518                            | 04                   | 180                       | 170               | 6                   | 14                              |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
| MESSAGE<br>TIME<br>HR. 1/10 | CAS<br>NO.   | CARD<br>TYPE          | DEPTH (m)              | T °C                  | S %                   | SIGMA-T      | SPECIFIC VOLUME<br>ANOMALY-20° |                      | S Δ D<br>DYN. M.<br>± 10' | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>2</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l  | NO <sub>2</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>2</sub> -Si<br>μg - ml/l | pH | °C |                      |                               |                           |
| 128                         |              | STD                   | 0000                   | 1645                  | 3579                  | 2627         | 0017600                        | 0000                 | 15129                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | OBS                   | 0000                   | 1645                  | 3579                  | 2627         |                                |                      | 15129                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 0010                   | 1645                  | 3579                  | 2627         | 0017623                        | 0018                 | 15130                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 0020                   | 1644                  | 3579                  | 2627         | 0017637                        | 0035                 | 15132                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
| 128                         |              | OBS                   | 0023                   | 1644                  | 3579                  | 2627         |                                |                      | 15132                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 0030                   | 1644                  | 3579                  | 2627         | 0017667                        | 0053                 | 15133                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
| 128                         |              | OBS                   | 0044                   | 1644                  | 3579                  | 2627         |                                |                      | 15135                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 0050                   | 1644                  | 3579                  | 2627         | 0017732                        | 0088                 | 15136                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
| 128                         |              | OBS                   | 0070                   | 1644                  | 3579                  | 2627         |                                |                      | 15140                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 0075                   | 1646                  | 3581                  | 2628         | 0017734                        | 0133                 | 15141                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
| 128                         |              | OBS                   | 0093                   | 1648                  | 3586                  | 2632         |                                |                      | 15146                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 0100                   | 1644                  | 3593                  | 2638         | 0016897                        | 0176                 | 15146                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 0125                   | 1620                  | 3609                  | 2656         | 0015279                        | 0216                 | 15145                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
| 128                         |              | OBS                   | T0145                  | 1589                  | 3612                  | 2666         |                                |                      | 15139                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 0150                   | 1577                  | 3611                  | 2667         | 0014265                        | 0253                 | 15136                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
| 128                         |              | OBS                   | 0177                   | 1516                  | 3601                  | 2674         |                                |                      | 15120                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 0200                   | 1479                  | 3556                  | 2678         | 0013405                        | 0322                 | 15112                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 0250                   | 1415                  | 3587                  | 2684         | 0012875                        | 0388                 | 15098                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
| 128                         |              | OBS                   | 0272                   | 1393                  | 3584                  | 2687         |                                |                      | 15095                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 0300                   | 1379                  | 3583                  | 2689         | 0012573                        | 0452                 | 15094                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
| 128                         |              | OBS                   | T0370                  | 1348                  | 3579                  | 2693         |                                |                      | 15095                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 0400                   | 1344                  | 3579                  | 2693         | 0012428                        | 0577                 | 15099                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
| 128                         |              | OBS                   | 0464                   | 1319                  | 3577                  | 2697         |                                |                      | 15101                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 0500                   | 1299                  | 3573                  | 2698         | 0012243                        | 0700                 | 15100                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
| 128                         |              | OBS                   | 0562                   | 1242                  | 3564                  | 2702         |                                |                      | 15089                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 0600                   | 1159                  | 3552                  | 2709         | 0011315                        | 0818                 | 15066                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 0700                   | 0964                  | 3527                  | 2724         | 0009854                        | 0924                 | 15009                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
| 128                         |              | OBS                   | 0777                   | 0835                  | 3512                  | 2734         |                                |                      | 14972                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 0800                   | 0803                  | 3511                  | 2738         | 0008559                        | 1016                 | 14964                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 0900                   | 0676                  | 3505                  | 2751         | 0007219                        | 1095                 | 14930                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
| 128                         |              | OBS                   | T0998                  | 0573                  | 3500                  | 2761         |                                |                      | 14905                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 1000                   | 0572                  | 3501                  | 2761         | 0006188                        | 1162                 | 14905                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 1100                   | 0542                  | 3500                  | 2765         | 0005950                        | 1222                 | 14909                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 1200                   | 0512                  | 3499                  | 2768         | 0005710                        | 1281                 | 14914                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 1300                   | 0481                  | 3498                  | 2770         | 0005465                        | 1336                 | 14918                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 1400                   | 0451                  | 3498                  | 2773         | 0005208                        | 1390                 | 14922                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
|                             |              | STD                   | 1500                   | 0421                  | 3497                  | 2776         | 0004955                        | 1441                 | 14926                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |
| 128                         |              | OBS                   | T1561                  | 0402                  | 3496                  | 2778         |                                |                      | 14928                     |                   |                     |                                 |                       |                                 |                                 |                                   |    |    |                      |                               |                           |



TABLE IV.—Continued

| REFERENCE<br>CITY<br>CODE  | SHIP<br>CODE | LATITUDE<br>° | LONGITUDE<br>° | MARSSEN<br>SQUARE    | STATION TIME |                       |                                   |  | YEAR              | ORIGINATOR'S         |                                 |                      | DEPTH<br>TO<br>BOTTOM           | MAIL<br>DEPTH<br>OF<br>SAMPLE   | WAVE<br>OBSERVATIONS              |     |          |    | CLOUD<br>CODES | WMO<br>STATION<br>NUMBER |      |
|----------------------------|--------------|---------------|----------------|----------------------|--------------|-----------------------|-----------------------------------|--|-------------------|----------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|-----|----------|----|----------------|--------------------------|------|
|                            |              |               |                |                      | 10°          | 1°                    | MO                                | DAY  |                   | HR                   | CRUISE<br>NO.                   | DR                   |                                 |                                 | NG                                | PER | SEA      |    |                |                          |      |
| 311184                     | OW           | 43571N        | 041042W        | 149                  | 31           | 12                    | 09                                | 125  | 1967              | 013                  | 005                             | 4572                 | 46                              | 20                              | 4                                 | 2   |          | 60 | 6              | 6                        | 0005 |
|                            |              |               |                |                      |              |                       |                                   |  |                   |                      |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
|                            |              | WATER         |                | WIND                 |              | HARD-<br>WATER        |                                   | AIR TEMP. °C   |                   | NO.<br>OBS.<br>DEPTH | SPECIAL<br>OBSERVATIONS         |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
|                            |              | COLOR<br>CODE | TRANSL<br>(m)  | SPEED<br>OF<br>FORCE | DIR.         | WAVE<br>HEIGHT<br>(m) | PERIOD<br>(s)                     | DRY<br>BULB  | WET<br>BULB       |                      |                                 | VIS<br>CODE          |                                 |                                 |                                   |     |          |    |                |                          |      |
|                            |              |               | 21             | 510                  | 04           | 178                   | 172                               | 7  | 20                |                      |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
| MESSAGE<br>TIME<br>HR 1/10 | CAST<br>NO.  | CARD<br>TYPE  | DEPTH (m)      | T °C                 | S ‰          | SIGMA-T               | SPECIFIC VOLUME<br>AND SALTY-1987 | $\Sigma \Delta \sigma_t$<br>DYN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l  | PO <sub>4</sub> -P<br>µg - ml/l | TOTAL-P<br>µg - ml/l | NO <sub>3</sub> -N<br>µg - ml/l | NO <sub>2</sub> -N<br>µg - ml/l | SiO <sub>4</sub> -Si<br>µg - ml/l | pH  | ST<br>°C |    |                |                          |      |
| 125                        | STD          | 0000          | 1658           | 3579                 | 2624         |                       |                                   |  |                   |                      |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
|                            | 085          | 0000          | 1658           | 35791                | 2624         |                       |                                   | 0017897  | 0000              | 15132                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
|                            | STD          | 0010          | 1658           | 3579                 | 2624         |                       |                                   | 0017920  | 0018              | 15134                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
|                            | STD          | 0020          | 1657           | 3579                 | 2624         |                       |                                   | 0017937  | 0036              | 15135                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
| 125                        | 085          | 0025          | 1657           | 35792                | 2624         |                       |                                   |  |                   | 15136                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
|                            | STD          | 0030          | 1658           | 3579                 | 2624         |                       |                                   | 0017972  | 0054              | 15137                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
|                            | STD          | 0050          | 1660           | 3580                 | 2624         |                       |                                   | 0018024  | 0090              | 15141                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
| 125                        | 085          | 0050          | 1660           | 35802                | 2624         |                       |                                   |  |                   | 15141                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
|                            | STD          | 0075          | 1659           | 3581                 | 2625         |                       |                                   | 0017996  | 0135              | 15145                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
| 125                        | 085          | 0087          | 1658           | 35818                | 2626         |                       |                                   |  |                   | 15147                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
| 125                        | STD          | 0100          | 1663           | 3587                 | 2629         |                       |                                   | 0017738  | 0179              | 15151                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
|                            | 085          | 0100          | 1663           | 35873                | 2629         |                       |                                   |  |                   | 15151                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
| 125                        | STD          | 0125          | 1657           | 3607                 | 2645         |                       |                                   | 0016261  | 0222              | 15156                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
|                            | 085          | 0149          | 1652           | 36156                | 2653         |                       |                                   |  |                   | 15159                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
| 125                        | STD          | 0150          | 1649           | 3615                 | 2653         |                       |                                   | 0015572  | 0262              | 15159                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
|                            | 085          | 0198          | 1524           | 36028                | 2673         |                       |                                   |  |                   | 15127                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
| 125                        | STD          | 0200          | 1521           | 3602                 | 2673         |                       |                                   | 0013862  | 0335              | 15126                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
|                            | STD          | 0250          | 1449           | 3551                 | 2680         |                       |                                   | 0013289  | 0403              | 15110                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
|                            | STD          | 0300          | 1395           | 3584                 | 2686         |                       |                                   | 0012827  | 0469              | 15100                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
|                            | 085          | 0302          | 1393           | 35838                | 2687         |                       |                                   |  |                   | 15099                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
| 125                        | 085          | T0392         | 1343           | 35794                | 2694         |                       |                                   |  |                   | 15097                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
|                            | STD          | 0400          | 1343           | 3579                 | 2694         |                       |                                   | 0012408  | 0595              | 15098                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
| 125                        | 085          | 0491          | 1305           | 35752                | 2698         |                       |                                   |  |                   | 15100                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
|                            | STD          | 0500          | 1297           | 3574                 | 2699         |                       |                                   | 0012130  | 0717              | 15079                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
|                            | 085          | T0582         | 1206           | 35580                | 2705         |                       |                                   |  |                   | 15080                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
| 125                        | STD          | 0600          | 1171           | 3553                 | 2707         |                       |                                   | 0011468  | 0835              | 15070                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
|                            | STD          | 0700          | 0987           | 3529                 | 2722         |                       |                                   | 0010105  | 0943              | 15018                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
|                            | 085          | 0790          | 0840           | 35143                | 2734         |                       |                                   |  |                   | 14976                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
|                            | STD          | 0800          | 0824           | 3514                 | 2737         |                       |                                   | 0008674  | 1037              | 14972                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
| 125                        | STD          | 0900          | 0681           | 3508                 | 2753         |                       |                                   | 0007073  | 1116              | 14933                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
|                            | 085          | T0996         | 0570           | 35034                | 2764         |                       |                                   |  |                   | 14904                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
|                            | STD          | 1000          | 0568           | 3503                 | 2764         |                       |                                   | 0005958  | 1181              | 14903                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
|                            | STD          | 1100          | 0520           | 3501                 | 2768         |                       |                                   | 0005568  | 1239              | 14900                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
| 125                        | STD          | 1200          | 0477           | 3499                 | 2772         |                       |                                   | 0005247  | 1293              | 14899                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
|                            | STD          | 1300          | 0441           | 3497                 | 2774         |                       |                                   | 0005019  | 1344              | 14901                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
|                            | STD          | 1400          | 0410           | 3496                 | 2777         |                       |                                   | 0004781  | 1393              | 14905                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
|                            | 085          | T1455         | 0396           | 34954                | 2778         |                       |                                   |  |                   | 14908                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
|                            | STD          | 1500          | 0394           | 3495                 | 2777         |                       |                                   | 0004734  | 1441              | 14915                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
|                            | STD          | 1750          | 0382           | 3495                 | 2779         |                       |                                   | 0004791  | 1560              | 14952                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
| 126                        | STD          | 2000          | 0370           | 3495                 | 2780         |                       |                                   | 0004832  | 1680              | 14989                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
|                            | 085          | T2129         | 0364           | 34947                | 2780         |                       |                                   |  |                   | 15009                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
|                            | STD          | 2500          | 0346           | 3495                 | 2782         |                       |                                   | 0004887  | 1923              | 15064                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
| 126                        | 085          | T2665         | 0336           | 34949                | 2783         |                       |                                   |  |                   | 15089                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
|                            | STD          | 3000          | 0311           | 3495                 | 2785         |                       |                                   | 0004717  | 2163              | 15130                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
| 126                        | 085          | 3202          | 0294           | 34944                | 2787         |                       |                                   |  |                   | 15164                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
| 126                        | 085          | 3745          | 0244           | 34927                | 2790         |                       |                                   |  |                   | 15237                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
| 126                        | STD          | 4000          | 0240           | 3492                 | 2790         |                       |                                   | 0004313  | 2615              | 15280                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
|                            | 085          | T4286         | 0237           | 34912                | 2789         |                       |                                   |  |                   | 15329                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |
| 126                        | 085          | 4621          | 0235           | 34915                | 2790         |                       |                                   |  |                   | 15388                |                                 |                      |                                 |                                 |                                   |     |          |    |                |                          |      |



TABLE IV.—Continued

[illegible]

| REFERENCE                  |             | SHIP CODE    | LATITUDE<br>° ' "/>10 | LONGITUDE<br>° ' "/>10 | HARDEN<br>SQUARE<br>10" 1" | STATION TIME<br>GMT |  |               |                           | YEAR                     | ORIGINATOR'S        |                                | DEPTH<br>TO<br>BOTTOM | WAVE<br>OBSERVATIONS           |                                |                                 |     | WEA-<br>THER<br>CODE | CLOUD<br>CODES<br>TYPE AMT | NOOC<br>STATION<br>NUMBER |      |
|----------------------------|-------------|--------------|-----------------------|------------------------|----------------------------|---------------------|--|---------------|---------------------------|--------------------------|---------------------|--------------------------------|-----------------------|--------------------------------|--------------------------------|---------------------------------|-----|----------------------|----------------------------|---------------------------|------|
| CTRY<br>CODE               | IO.<br>NO.  |              |                       |                        |                            | MO                  | DAY  | HR            | MIN                       |                          | SEC                 | CRUISE<br>NO.                  |                       | STATION<br>NUMBER              | ON                             | OFF                             | PER |                      |                            |                           | SEA  |
| 311184                     | OW          |              | 4355 N                | 04053 W                | 149                        | 30                  | 12   | 11            | 126                       | 1967                     | D13                 | 007                            | 4572                  | 10                             | 30                             | 3                               |     | 63                   | 5                          | 8                         | 0007 |
|                            |             |              |                       |                        |                            | WATER               |  | WIND          |                           | BARO-<br>METER<br>(mmHg) |                     | AIR TEMP. °C                   |                       | VIS<br>COG                     |                                | NO.<br>OBS<br>OBSERVATIONS      |     |                      |                            |                           |      |
|                            |             |              |                       |                        |                            | COLOR<br>CODE       |  | TRANS-<br>MIT |                           | OIL                      |                     | SPEED<br>OR<br>FORCE           |                       | DRY<br>RULE                    |                                | WET<br>RULE                     |     |                      |                            |                           |      |
|                            |             |              |                       |                        |                            |                     |  | 30            |                           | S18                      |                     | 07                             |                       | 111                            |                                | 111                             |     | 6                    |                            | 13                        |      |
| MISSION<br>TIME<br>HR 1/10 | CAST<br>NO. | CARD<br>TYPE | DEPTH (M)             | T °C                   | S %                        | SIGMA-T             | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> (°C) |               | S Δ σ<br>DTN, M,<br>± 10° | SOUND<br>VELOCITY        | O <sub>2</sub> ml/l | PO <sub>2</sub> =P<br>pg ± 0.1 | TOTAL-P<br>pg ± 0.1   | NO <sub>2</sub> =N<br>pg ± 0.1 | NO <sub>3</sub> =N<br>pg ± 0.1 | S/O <sub>2</sub> =S<br>pg ± 0.1 | pH  | S<br>C               |                            |                           |      |
|                            |             |              |                       |                        |                            |                     |  |               |                           |                          |                     |                                |                       |                                |                                |                                 |     |                      |                            |                           |      |
| 126                        |             | STD          | 0000                  | 1696                   | 3583                       | 2618                | 0018446  |               | 0000                      | 15144                    |                     |                                |                       |                                |                                |                                 |     |                      |                            |                           |      |
|                            |             | D8S          | 0000                  | 1696                   | 3583.3                     | 2618                |  |               |                           | 25144                    |                     |                                |                       |                                |                                |                                 |     |                      |                            |                           |      |
|                            |             | STD          | 0010                  | 1698                   | 3584                       | 2618                | 0018488  |               | 0018                      | 15147                    |                     |                                |                       |                                |                                |                                 |     |                      |                            |                           |      |
| 126                        |             | STD          | 0020                  | 1699                   | 3584                       | 2618                | 0018507  |               | 0037                      | 15149                    |                     |                                |                       |                                |                                |                                 |     |                      |                            |                           |      |
|                            |             | D8S          | 0029                  | 1700                   | 3584.8                     | 2618                |  |               |                           | 15150                    |                     |                                |                       |                                |                                |                                 |     |                      |                            |                           |      |
|                            |             | STD          | 0030                  | 1700                   | 3585                       | 2618                | 0018527  |               | 0055                      | 15151                    |                     |                                |                       |                                |                                |                                 |     |                      |                            |                           |      |
| 126                        |             | STD          | 0050                  | 1701                   | 3585                       | 2618                | 0018624  |               | 0093                      | 15154                    |                     |                                |                       |                                |                                |                                 |     |                      |                            |                           |      |
|                            |             | D8S          | 0057                  | 1701                   | 3584.5                     | 2618                |  |               |                           | 15155                    |                     |                                |                       |                                |                                |                                 |     |                      |                            |                           |      |
|                            |             | STD          | 0075                  | 1702                   | 3586                       | 2618                | 0018661  |               | 0139                      | 15159                    |                     |                                |                       |                                |                                |                                 |     |                      |                            |                           |      |
| 126                        |             | D8S          | 0086                  | 1702                   | 3566.1                     | 2619                |  |               |                           | 15161                    |                     |                                |                       |                                |                                |                                 |     |                      |                            |                           |      |
|                            |             | STD          | 0100                  | 1705                   | 3614                       | 2640                | 0016742  |               | 0183                      | 15167                    |                     |                                |                       |                                |                                |                                 |     |                      |                            |                           |      |
|                            |             | D8S          | 0113                  | 1707                   | 3631.5                     | 2652                |  |               |                           | 15172                    |                     |                                |                       |                                |                                |                                 |     |                      |                            |                           |      |
| 126                        |             | STD          | 0125                  | 1665                   | 3628                       | 2655                | 0015361  |               | 0224                      | 15167                    |                     |                                |                       |                                |                                |                                 |     |                      |                            |                           |      |
|                            |             | STD          | 0150                  | 1643                   | 3622                       | 2660                | 0014929  |               | 0261                      | 15158                    |                     |                                |                       |                                |                                |                                 |     |                      |                            |                           |      |
|                            |             | D8S          | T0172                 | 1608                   | 3617.5                     | 2665                |  |               |                           | 15150                    |                     |                                |                       |                                |                                |                                 |     |                      |                            |                           |      |
| 126                        |             | STD          | 0200                  | 1576                   | 3613                       | 2669                | 0014256  |               | 0334                      | 15144                    |                     |                                |                       |                                |                                |                                 |     |                      |                            |                           |      |
|                            |             | D8S          | 0227                  | 1534                   | 3606.4                     | 2673                |  |               |                           | 15135                    |                     |                                |                       |                                |                                |                                 |     |                      |                            |                           |      |
|                            |             | STD          | 0250                  | 1472                   | 3597                       | 2680                | 0013335  |               | 0403                      | 15118                    |                     |                                |                       |                                |                                |                                 |     |                      |                            |                           |      |
| 126                        |             | D8S          | 0294                  | 1380                   | 3582.5                     | 2688                |  |               |                           | 15094                    |                     |                                |                       |                                |                                |                                 |     |                      |                            |                           |      |
|                            |             | STD          | 0300                  | 1379                   | 3582                       | 2688                | 0012624  |               | 0468                      | 15094                    |                     |                                |                       |                                |                                |                                 |     |                      |                            |                           |      |
|                            |             | STD          | 0400                  | 1346                   | 3579                       | 2693                | 0012462  |               | 0594                      | 15099                    |                     |                                |                       |                                |                                |                                 |     |                      |                            |                           |      |
| 126                        |             | D8S          | T0436                 | 1324                   | 3578.0                     | 2697                |  |               |                           | 15098                    |                     |                                |                       |                                |                                |                                 |     |                      |                            |                           |      |
|                            |             | STD          | 0500                  | 1281                   | 3570                       | 2699                | 0012104  |               | 0717                      | 15093                    |                     |                                |                       |                                |                                |                                 |     |                      |                            |                           |      |
|                            |             | D8S          | 0533                  | 1236                   | 3562.4                     | 2702                |  |               |                           | 15082                    |                     |                                |                       |                                |                                |                                 |     |                      |                            |                           |      |
| 126                        |             | STD          | 0600                  | 1077                   | 3538                       | 2713                | 0010823  |               | 0831                      | 15035                    |                     |                                |                       |                                |                                |                                 |     |                      |                            |                           |      |
|                            |             | D8S          | 0628                  | 1016                   | 3529.2                     | 2717                |  |               |                           | 15017                    |                     |                                |                       |                                |                                |                                 |     |                      |                            |                           |      |
|                            |             | STD          | 0700                  | 0869                   | 3517                       | 2732                | 0008996  |               | 0930                      | 14973                    |                     |                                |                       |                                |                                |                                 |     |                      |                            |                           |      |
| 126                        |             | STD          | 0800                  | 0708                   | 3505                       | 2747                | 0007540  |               | 1013                      | 14926                    |                     |                                |                       |                                |                                |                                 |     |                      |                            |                           |      |
|                            |             | D8S          | 0824                  | 0677                   | 3502.8                     | 2749                |  |               |                           | 14918                    |                     |                                |                       |                                |                                |                                 |     |                      |                            |                           |      |
|                            |             | STD          | 0900                  | 0599                   | 3502                       | 2759                | 0006361  |               | 1082                      | 14899                    |                     |                                |                       |                                |                                |                                 |     |                      |                            |                           |      |
| 126                        |             | STD          | 1000                  | 0541                   | 3500                       | 2765                | 0005806  |               | 1143                      | 14892                    |                     |                                |                       |                                |                                |                                 |     |                      |                            |                           |      |
|                            |             | D8S          | T1017                 | 0536                   | 3499.7                     | 2765                |  |               |                           | 14893                    |                     |                                |                       |                                |                                |                                 |     |                      |                            |                           |      |



TABLE IV.—Continued

| REFERENCE<br>CITY<br>ID. NO.  | SHIP<br>CODE  | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10  | MARS<br>SQUARE         | STATION TIME (GMT) |             |                                | YEAR                                  | ORIGINATOR'S            |                     | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPL'S | WAVE<br>OBSERVATIONS            |                                 |                                   |     | WEA-<br>THER<br>CODE | CLOUD<br>CODES | NOOC<br>STATION<br>NUMBER |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|---|---------------|--------------------|----------------------|------------------------|--------------------|-------------|--------------------------------|---------------------------------------|-------------------------|---------------------|---------------------------------|--------------------------------|---------------------------------|---------------------------------|-----------------------------------|-----|----------------------|----------------|---------------------------|-------|--|------|--|------------------------|--------------|--|-------------|----------------------|-------------------------|---------------|---------------|-----|----------------------|-------------|-------------|--|--|--|----|-----|----|-----|-----|---|----|
|   |               |                    |                      |                        | 10'                | 1'          | MO DAY HR. 1/10                |                                       | CRUISE<br>NO.           | STATION<br>NUMBER   |                                 |                                | DIR                             | HGT                             | PER                               | SEA |                      |                |                           |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
| 311184  | OW            | 4402 N             | 04057 W              | 149 40                 | 12                 | 12          | 132                            | 1967                                  | 013                     | 008                 | 4572                            | 10                             | 24                              | 6                               | 2                                 |     | 89                   | 5 8            | 0008                      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
| <table><tr><th colspan="2">WATER</th><th colspan="2">WIND</th><th rowspan="2">BARO-<br/>METER<br/>(mb)</th><th colspan="2">AIR TEMP. °C</th><th rowspan="2">VIL<br/>CODE</th><th rowspan="2">NO.<br/>OBS.<br/>DEPTH</th><th rowspan="2">SPECIAL<br/>OBSERVATIONS</th></tr><tr><th>COLOR<br/>CODE</th><th>TRANS-<br/>MIS</th><th>DIR</th><th>SPEED<br/>OF<br/>FORCE</th><th>DBT<br/>BULB</th><th>WET<br/>BULB</th></tr><tr><td></td><td></td><td></td><td>25</td><td>517</td><td>00</td><td>089</td><td>078</td><td>7</td><td>12</td></tr></table> |               |                    |                      |                        |                    |             |                                |                                       |                         |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           | WATER |  | WIND |  | BARO-<br>METER<br>(mb) | AIR TEMP. °C |  | VIL<br>CODE | NO.<br>OBS.<br>DEPTH | SPECIAL<br>OBSERVATIONS | COLOR<br>CODE | TRANS-<br>MIS | DIR | SPEED<br>OF<br>FORCE | DBT<br>BULB | WET<br>BULB |  |  |  | 25 | 517 | 00 | 089 | 078 | 7 | 12 |
| WATER   |               | WIND               |                      | BARO-<br>METER<br>(mb) | AIR TEMP. °C       |             | VIL<br>CODE                    | NO.<br>OBS.<br>DEPTH                  | SPECIAL<br>OBSERVATIONS |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
| COLOR<br>CODE   | TRANS-<br>MIS | DIR                | SPEED<br>OF<br>FORCE |                        | DBT<br>BULB        | WET<br>BULB |                                |                                       |                         |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   |               |                    | 25                   | 517                    | 00                 | 089         | 078                            | 7                                     | 12                      |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
| MESSENGER<br>TIME<br>NR 1/10  | CARD<br>NO.   | CARD<br>TYPE       | DEPTH (m)            | T °C                   | S ‰                | SIGMA-T     | SPECIFIC VOLUME<br>ANDWAL-318° | Σ Δ D<br>DYN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY       | O <sub>2</sub> ml/l | PO <sub>2</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l           | NO <sub>2</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH  | S                    |                |                           |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
| 132   | STO           | 0000               | 1649                 | 3584                   | 2620               | 0018273     | 0000                           | 15142                                 |                         |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | OBS           | 0000               | 1689                 | 35835                  | 2620               |             |                                | 15142                                 |                         |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | STO           | 0010               | 1690                 | 3583                   | 2620               | 0018338     | 0018                           | 15144                                 |                         |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
| 132   | STO           | 0020               | 1691                 | 3583                   | 2619               | 0018396     | 0037                           | 15146                                 |                         |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | OBS           | 0027               | 1692                 | 35833                  | 2619               |             |                                | 15148                                 |                         |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | STO           | 0030               | 1692                 | 3583                   | 2619               | 0018454     | 0055                           | 15148                                 |                         |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
| 132   | STO           | 0050               | 1692                 | 3584                   | 2619               | 0018506     | 0092                           | 15151                                 |                         |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | OBS           | 0053               | 1692                 | 35835                  | 2619               |             |                                | 15152                                 |                         |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | STO           | 0075               | 1696                 | 3590                   | 2623               | 0018207     | 0138                           | 15157                                 |                         |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
| 132   | STO           | 0080               | 1699                 | 35931                  | 2625               |             |                                | 15160                                 |                         |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | STO           | 0100               | 1726                 | 3617                   | 2637               | 0017016     | 0182                           | 15174                                 |                         |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | OBS           | 0107               | 1728                 | 36227                  | 2641               |             |                                | 15176                                 |                         |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
| 132   | STO           | 0125               | 1689                 | 3622                   | 2649               | 0015887     | 0223                           | 15167                                 |                         |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | STO           | 0150               | 1641                 | 3620                   | 2659               | 0015029     | 0262                           | 15157                                 |                         |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | OBS           | T0160              | 1624                 | 36182                  | 2662               |             |                                | 15153                                 |                         |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
| 132   | STO           | 0200               | 1569                 | 3610                   | 2668               | 0014321     | 0335                           | 15142                                 |                         |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | OBS           | 0211               | 1554                 | 36076                  | 2670               |             |                                | 15139                                 |                         |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | STO           | 0250               | 1500                 | 3599                   | 2675               | 0013784     | 0405                           | 15127                                 |                         |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
| 132   | STO           | 0300               | 1433                 | 3588                   | 2681               | 0013321     | 0473                           | 15113                                 |                         |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | STO           | 0400               | 1310                 | 3570                   | 2693               | 0012410     | 0602                           | 15086                                 |                         |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | OBS           | 0416               | 1292                 | 35668                  | 2694               |             |                                | 15083                                 |                         |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
| 132   | STO           | 0500               | 1207                 | 3555                   | 2702               | 0011758     | 0723                           | 15066                                 |                         |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | OBS           | 0513               | 1188                 | 35520                  | 2703               |             |                                | 15061                                 |                         |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | STO           | 0600               | 1019                 | 3528                   | 2716               | 0010522     | 0834                           | 15013                                 |                         |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
| 132   | OBS           | T0608              | 1004                 | 35262                  | 2717               |             |                                | 15009                                 |                         |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | STO           | 0700               | 0808                 | 3514                   | 2739               | 0008240     | 0928                           | 14949                                 |                         |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | STO           | 0800               | 0651                 | 3504                   | 2754               | 0006780     | 1003                           | 14904                                 |                         |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
| 132   | OBS           | 0806               | 0643                 | 35036                  | 2755               |             |                                | 14901                                 |                         |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | STO           | 0900               | 0550                 | 3498                   | 2762               | 0005952     | 1067                           | 14879                                 |                         |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | OBS           | T0992              | 0508                 | 34954                  | 2765               |             |                                | 14877                                 |                         |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |

| REFERENCE CITY ID. NO. | SHIP CODE | LATITUDE ° 1/10 | LONGITUDE ° 1/10 | MARS SQUARE | STATION TIME (GMT) | | | YEAR | ORIGINATOR'S | | DEPTH TO BOTTOM | MAX. DEPTH OF SAMPL'S | WAVE OBSERVATIONS | | | | WEA- THER CODE | CLOUD CODES | NOOC STATION NUMBER |
| 10' | 1' | MO DAY HR. 1/10 | CRUISE NO. | STATION NUMBER | DIR | HGT | PER | SEA |
| 311184 | OW | 4403 N | 04058 W | 149 40 | 12 | 14 | 124 | 1967 | 013 | 009 | 4663 | 14 | 03 | 1 | 3 |  | 5 5 | 0009 |
| | WATER         |               | WIND |                      | BARO-<br>METER<br>(mb) | AIR TEMP. °C |             | VIL<br>CODE | NO.<br>OBS.<br>DEPTH | SPECIAL<br>OBSERVATIONS | |---------------|---------------|------|----------------------|------------------------|--------------|-------------|-------------|----------------------|-------------------------| | COLOR<br>CODE | TRANS-<br>MIS | DIR  | SPEED<br>OF<br>FORCE |                        | DBT<br>BULB  | WET<br>BULB |             |                      |                         | |               |               |      | 36                   | 505                    | 01           | 100         | 094         | 6                    | 14                      | | | | | | | | | | | | | | | | | | | | |
| MESSENGER TIME NR 1/10 | CARD NO. | CARD TYPE | DEPTH (m) | T °C | S ‰ | SIGMA-T | SPECIFIC VOLUME ANDWAL-318° | Σ Δ D DYN. M. x 10<sup>3</sup> | SOUND VELOCITY | O<sub>2</sub> ml/l | PO<sub>2</sub>-P μg - ml/l | TOTAL-P μg - ml/l | NO<sub>2</sub>-N μg - ml/l | NO<sub>3</sub>-N μg - ml/l | SiO<sub>4</sub>-Si μg - ml/l | pH | S |
| 124 | STO | 0000 | 1670 | 3576 | 2618 | 0018420 | 0000 | 15136 |  |  |  |  |  |  |  |  |  |
| OBS | 0000 | 1670 | 35756 | 2618 |  |  | 15136 |  |  |  |  |  |  |  |  |  |
| STO | 0010 | 1670 | 3576 | 2619 | 0018429 | 0018 | 15137 |  |  |  |  |  |  |  |  |  |
| 124 | STO | 0020 | 1669 | 3576 | 2619 | 0018446 | 0037 | 15139 |  |  |  |  |  |  |  |  |  |
| OBS | 0025 | 1669 | 35760 | 2619 |  |  | 15139 |  |  |  |  |  |  |  |  |  |
| STO | 0030 | 1670 | 3576 | 2619 | 0018482 | 0055 | 15141 |  |  |  |  |  |  |  |  |  |
| 124 | STO | 0050 | 1672 | 3576 | 2618 | 0018570 | 0092 | 15145 |  |  |  |  |  |  |  |  |  |
| OBS | 0050 | 1672 | 35764 | 2618 |  |  | 15145 |  |  |  |  |  |  |  |  |  |
| STO | 0075 | 1671 | 3576 | 2619 | 0018636 | 0139 | 15148 |  |  |  |  |  |  |  |  |  |
| 124 | OBS | 0076 | 1671 | 35763 | 2619 |  |  | 15148 |  |  |  |  |  |  |  |  |  |
| STO | 0100 | 1674 | 3577 | 2618 | 0018742 | 0186 | 15153 |  |  |  |  |  |  |  |  |  |
| OBS | 0100 | 1674 | 35769 | 2618 |  |  | 15153 |  |  |  |  |  |  |  |  |  |
| 124 | STO | 0125 | 1668 | 3605 | 2641 | 0016652 | 0230 | 15159 |  |  |  |  |  |  |  |  |  |
| STO | 0150 | 1663 | 3619 | 2653 | 0015591 | 0270 | 15163 |  |  |  |  |  |  |  |  |  |
| OBS | T0153 | 1662 | 36202 | 2654 |  |  | 15164 |  |  |  |  |  |  |  |  |  |
| 124 | STO | 0200 | 1580 | 3610 | 2666 | 0014555 | 0346 | 15145 |  |  |  |  |  |  |  |  |  |
| OBS | 0200 | 1580 | 36101 | 2666 |  |  | 15145 |  |  |  |  |  |  |  |  |  |
| STO | 0250 | 1486 | 3555 | 2675 | 0013777 | 0416 | 15122 |  |  |  |  |  |  |  |  |  |
| 124 | OBS | 0298 | 1417 | 35844 | 2682 |  |  | 15107 |  |  |  |  |  |  |  |  |  |
| STO | 0300 | 1416 | 3584 | 2682 | 0013259 | 0484 | 15107 |  |  |  |  |  |  |  |  |  |
| OBS | T0391 | 1342 | 35763 | 2692 |  |  | 15096 |  |  |  |  |  |  |  |  |  |
| 124 | STO | 0400 | 1328 | 3574 | 2693 | 0012478 | 0613 | 15093 |  |  |  |  |  |  |  |  |  |
| OBS | 0489 | 1183 | 35497 | 2703 |  |  | 15055 |  |  |  |  |  |  |  |  |  |
| STO | 0500 | 1162 | 3547 | 2704 | 0011491 | 0732 | 15050 |  |  |  |  |  |  |  |  |  |
| 124 | OBS | T0583 | 1008 | 35278 | 2717 |  |  | 15006 |  |  |  |  |  |  |  |  |  |
| STO | 0600 | 0970 | 3524 | 2721 | 0009967 | 0840 | 14995 |  |  |  |  |  |  |  |  |  |
| STO | 0700 | 0776 | 3508 | 2739 | 0008183 | 0931 | 14936 |  |  |  |  |  |  |  |  |  |
| 124 | OBS | 0767 | 0675 | 35005 | 2748 |  |  | 14907 |  |  |  |  |  |  |  |  |  |
| STO | 0800 | 0641 | 3499 | 2751 | 0007005 | 1006 | 14899 |  |  |  |  |  |  |  |  |  |
| STO | 0900 | 0552 | 3496 | 2760 | 0006126 | 1072 | 14879 |  |  |  |  |  |  |  |  |  |
| 124 | OBS | T0954 | 0512 | 34949 | 2764 |  |  | 14872 |  |  |  |  |  |  |  |  |  |
| STO | 1000 | 0502 | 3495 | 2765 | 0005662 | 1131 | 14876 |  |  |  |  |  |  |  |  |  |
| STO | 1100 | 0481 | 3495 | 2768 | 0005497 | 1187 | 14884 |  |  |  |  |  |  |  |  |  |
| 124 | STO | 1200 | 0460 | 3495 | 2770 | 0005326 | 1241 | 14892 |  |  |  |  |  |  |  |  |  |
| STO | 1300 | 0439 | 3495 | 2772 | 0005151 | 1293 | 14900 |  |  |  |  |  |  |  |  |  |
| STO | 1400 | 0418 | 3495 | 2775 | 0004970 | 1344 | 14908 |  |  |  |  |  |  |  |  |  |
| 124 | OBS | T1449 | 0408 | 34949 | 2776 |  |  | 14912 |  |  |  |  |  |  |  |  |  |

| REFERENCE<br>CITY<br>CODE   | SHIP<br>CODE  | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10  | E<br>W                 | MARS<br>SQUARE |             | STATION TIME<br>(GMT)          |                                       | YEAR                    | ORIGINATOR'S        |                                 | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPLING | WAVE<br>OBSERVATIONS            |                                   |     |     | WEA-<br>THER<br>CODE | CLOUD<br>CODES | ID<br>NUMBER | NOOC<br>STATION<br>NUMBER |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|---|---------------|--------------------|----------------------|------------------------|----------------|-------------|--------------------------------|---------------------------------------|-------------------------|---------------------|---------------------------------|-----------------------|---------------------------------|---------------------------------|-----------------------------------|-----|-----|----------------------|----------------|--------------|---------------------------|-----|------|-------|--|------|--|------------------------|--------------|--|-------------|----------------------|-------------------------|---------------|---------------|-----|----------------------|-------------|-------------|--|--|--|----|-----|----|-----|-----|---|----|
|   |               |                    |                      |                        | 10'            | 1'          | MO                             | DAY                                   |                         | HR.                 | 1/10                            |                       |                                 | CRUISE<br>NO.                   | STATION<br>NUMBER                 | DIR | HGT |                      |                |              |                           | PER | SEA  |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
| 311184  | OW            | 4403 N             | 04058 W              |                        | 149            | 40          | 12                             | 14                                    | 124                     | 1967                | 013                             | 009                   | 4663                            | 14                              | 03                                | 1   | 3   |                      |                | 5            | 5                         |     | 0009 |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
| <table><tr><th colspan="2">WATER</th><th colspan="2">WIND</th><th rowspan="2">BARO-<br/>METER<br/>(mb)</th><th colspan="2">AIR TEMP. °C</th><th rowspan="2">VIL<br/>CODE</th><th rowspan="2">NO.<br/>OBS.<br/>DEPTH</th><th rowspan="2">SPECIAL<br/>OBSERVATIONS</th></tr><tr><th>COLOR<br/>CODE</th><th>TRANS-<br/>MIS</th><th>DIR</th><th>SPEED<br/>OF<br/>FORCE</th><th>DBT<br/>BULB</th><th>WET<br/>BULB</th></tr><tr><td></td><td></td><td></td><td>36</td><td>505</td><td>01</td><td>100</td><td>094</td><td>6</td><td>14</td></tr></table> |               |                    |                      |                        |                |             |                                |                                       |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      | WATER |  | WIND |  | BARO-<br>METER<br>(mb) | AIR TEMP. °C |  | VIL<br>CODE | NO.<br>OBS.<br>DEPTH | SPECIAL<br>OBSERVATIONS | COLOR<br>CODE | TRANS-<br>MIS | DIR | SPEED<br>OF<br>FORCE | DBT<br>BULB | WET<br>BULB |  |  |  | 36 | 505 | 01 | 100 | 094 | 6 | 14 |
| WATER   |               | WIND               |                      | BARO-<br>METER<br>(mb) | AIR TEMP. °C   |             | VIL<br>CODE                    | NO.<br>OBS.<br>DEPTH                  | SPECIAL<br>OBSERVATIONS |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
| COLOR<br>CODE   | TRANS-<br>MIS | DIR                | SPEED<br>OF<br>FORCE |                        | DBT<br>BULB    | WET<br>BULB |                                |                                       |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   |               |                    | 36                   | 505                    | 01             | 100         | 094                            | 6                                     | 14                      |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
| MESSENGER<br>TIME<br>NR 1/10  | CARD<br>NO.   | CARD<br>TYPE       | DEPTH (m)            | T °C                   | S ‰            | SIGMA-T     | SPECIFIC VOLUME<br>ANDWAL-318° | Σ Δ D<br>DYN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY       | O <sub>2</sub> ml/l | PO <sub>2</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l  | NO <sub>2</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH  | S   |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
| 124   | STO           | 0000               | 1670                 | 3576                   | 2618           | 0018420     | 0000                           | 15136                                 |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | OBS           | 0000               | 1670                 | 35756                  | 2618           |             |                                | 15136                                 |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | STO           | 0010               | 1670                 | 3576                   | 2619           | 0018429     | 0018                           | 15137                                 |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
| 124   | STO           | 0020               | 1669                 | 3576                   | 2619           | 0018446     | 0037                           | 15139                                 |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | OBS           | 0025               | 1669                 | 35760                  | 2619           |             |                                | 15139                                 |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | STO           | 0030               | 1670                 | 3576                   | 2619           | 0018482     | 0055                           | 15141                                 |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
| 124   | STO           | 0050               | 1672                 | 3576                   | 2618           | 0018570     | 0092                           | 15145                                 |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | OBS           | 0050               | 1672                 | 35764                  | 2618           |             |                                | 15145                                 |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | STO           | 0075               | 1671                 | 3576                   | 2619           | 0018636     | 0139                           | 15148                                 |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
| 124   | STO           | 0076               | 1671                 | 35763                  | 2619           |             |                                | 15148                                 |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | STO           | 0100               | 1674                 | 3577                   | 2618           | 0018742     | 0186                           | 15153                                 |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | OBS           | 0100               | 1674                 | 35769                  | 2618           |             |                                | 15153                                 |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
| 124   | STO           | 0125               | 1668                 | 3605                   | 2641           | 0016652     | 0230                           | 15159                                 |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | STO           | 0150               | 1663                 | 3619                   | 2653           | 0015591     | 0270                           | 15163                                 |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | OBS           | T0153              | 1662                 | 36202                  | 2654           |             |                                | 15164                                 |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
| 124   | STO           | 0200               | 1580                 | 3610                   | 2666           | 0014555     | 0346                           | 15145                                 |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | OBS           | 0200               | 1580                 | 36101                  | 2666           |             |                                | 15145                                 |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | STO           | 0250               | 1486                 | 3555                   | 2675           | 0013777     | 0416                           | 15122                                 |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
| 124   | OBS           | 0298               | 1417                 | 35844                  | 2682           |             |                                | 15107                                 |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | STO           | 0300               | 1416                 | 3584                   | 2682           | 0013259     | 0484                           | 15107                                 |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | OBS           | T0391              | 1342                 | 35763                  | 2692           |             |                                | 15096                                 |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
| 124   | STO           | 0400               | 1328                 | 3574                   | 2693           | 0012478     | 0613                           | 15093                                 |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | OBS           | 0489               | 1183                 | 35497                  | 2703           |             |                                | 15055                                 |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | STO           | 0500               | 1162                 | 3547                   | 2704           | 0011491     | 0732                           | 15050                                 |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
| 124   | OBS           | T0583              | 1008                 | 35278                  | 2717           |             |                                | 15006                                 |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | STO           | 0600               | 0970                 | 3524                   | 2721           | 0009967     | 0840                           | 14995                                 |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | STO           | 0700               | 0776                 | 3508                   | 2739           | 0008183     | 0931                           | 14936                                 |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
| 124   | OBS           | 0767               | 0675                 | 35005                  | 2748           |             |                                | 14907                                 |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | STO           | 0800               | 0641                 | 3499                   | 2751           | 0007005     | 1006                           | 14899                                 |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | STO           | 0900               | 0552                 | 3496                   | 2760           | 0006126     | 1072                           | 14879                                 |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
| 124   | OBS           | T0954              | 0512                 | 34949                  | 2764           |             |                                | 14872                                 |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | STO           | 1000               | 0502                 | 3495                   | 2765           | 0005662     | 1131                           | 14876                                 |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | STO           | 1100               | 0481                 | 3495                   | 2768           | 0005497     | 1187                           | 14884                                 |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
| 124   | STO           | 1200               | 0460                 | 3495                   | 2770           | 0005326     | 1241                           | 14892                                 |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | STO           | 1300               | 0439                 | 3495                   | 2772           | 0005151     | 1293                           | 14900                                 |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
|   | STO           | 1400               | 0418                 | 3495                   | 2775           | 0004970     | 1344                           | 14908                                 |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |
| 124   | OBS           | T1449              | 0408                 | 34949                  | 2776           |             |                                | 14912                                 |                         |                     |                                 |                       |                                 |                                 |                                   |     |     |                      |                |              |                           |     |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |     |                      |             |             |  |  |  |    |     |    |     |     |   |    |



TABLE IV.—Continued

| REFERENCE                  |              | SHIP<br>CODE | LATITUDE<br>" 1/10   | LONGITUDE<br>" 1/10 | TIME<br>OF<br>OBS.   | MARSDEN<br>SQUARE |   | STATION TIME<br>(GMT)                 |                   |                     | YEAR                            | ORIGINATOR'S            |                                 | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLE     | WAVE<br>OBSERVATIONS |     |     |     | WEA-<br>THER<br>CODE | CLOUD<br>CODES |     | MOON<br>STATION<br>NUMBER |
|----------------------------|--------------|--------------|----------------------|---------------------|----------------------|-------------------|---|---------------------------------------|-------------------|---------------------|---------------------------------|-------------------------|---------------------------------|---------------------------------|-----------------------------------|----------------------|-----|-----|-----|----------------------|----------------|-----|---------------------------|
| CTRY<br>CODE               | ID.<br>NO.   |              |                      |                     |                      | 10"               | 1"  | MO                                    | DAY               | HR./10              |                                 | CRUISE<br>NO.           | STATION<br>NUMBER               |                                 |                                   | DIR.                 | HGH | PER | SEA |                      | TIME           | AMT |                           |
| 311                        | 184          | OW           | 43585N               | 044010W             | 149                  | 34                | 12  | 15                                    | 133               | 1967                | 013                             | 010                     | 4892                            | 17                              | 20                                | 3                    | 2   |     |     | 6                    | 5              |     | 0010                      |
|                            |              | WATER        |                      | WIND                |                      | BARO-<br>METER    |   | AIR TEMP °C                           |                   | VIL<br>CODE         | NO.<br>OBS.<br>DEPTH            | SPECIAL<br>OBSERVATIONS |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
| COLOR<br>CODE              | TRANS<br>(m) | DIR.         | SPEED<br>OF<br>FORCE | DIR.                | SPEED<br>OF<br>FORCE | DRY<br>BULB       | WET<br>BULB                               | DRY<br>BULB                           | WET<br>BULB       |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
|                            |              | 23           | 52.3                 |                     | 986                  | 122               | 097                                       | 7                                     | 14                |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
| MESSAGE<br>TIME<br>NR 1/10 | CAST<br>NO.  | CARD<br>TYPE | DEPTH (m)            | T °C                | S ‰                  | SIGMA-T           | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> | Σ Δ σ<br>OYN. M.<br>± 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l    | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | PH                   | CTD |     |     |                      |                |     |                           |
|                            |              | ST0          | 0000                 | 16.77               | 35.80                | 2620              | 001822.8                                  | 0000                                  | 1513.8            |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
| 133                        |              | OBS          | 0000                 | 16.77               | 35.804               | 2620              |   |                                       | 1513.8            |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
|                            |              | ST0          | 0010                 | 16.78               | 35.80                | 2620              | 001826.3                                  | 0018                                  | 1514.0            |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
|                            |              | ST0          | 0020                 | 16.78               | 35.80                | 2620              | 001832.3                                  | 0037                                  | 1514.2            |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
| 133                        |              | OBS          | 0029                 | 16.79               | 35.803               | 2620              |   |                                       | 1514.4            |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
|                            |              | ST0          | 0030                 | 16.79               | 35.80                | 2620              | 001838.1                                  | 0055                                  | 1514.4            |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
|                            |              | ST0          | 0050                 | 16.81               | 35.80                | 2620              | 001847.1                                  | 0092                                  | 1514.8            |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
| 133                        |              | OBS          | 0057                 | 16.81               | 35.604               | 2619              |   |                                       | 1514.9            |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
|                            |              | ST0          | 0075                 | 16.80               | 35.81                | 2620              | 001853.6                                  | 0138                                  | 1515.2            |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
| 133                        |              | OBS          | 0085                 | 16.80               | 35.807               | 2620              |   |                                       | 1515.3            |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
|                            |              | ST0          | 0100                 | 16.94               | 35.90                | 2624              | 001824.4                                  | 0184                                  | 1516.1            |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
| 133                        |              | OBS          | 0113                 | 17.00               | 35.979               | 2628              |   |                                       | 1516.6            |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
|                            |              | ST0          | 0125                 | 17.00               | 36.08                | 2636              | 001715.6                                  | 0228                                  | 1516.9            |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
|                            |              | ST0          | 0150                 | 16.85               | 36.21                | 2650              | 001595.2                                  | 0270                                  | 1517.0            |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
| 133                        |              | OBS          | T0171                | 16.57               | 36.236               | 2658              |   |                                       | 1516.6            |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
|                            |              | ST0          | 0200                 | 15.79               | 36.10                | 2666              | 001454.0                                  | 0346                                  | 1514.5            |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
| 133                        |              | OBS          | 0223                 | 15.24               | 36.009               | 2671              |   |                                       | 1513.0            |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
|                            |              | ST0          | 0250                 | 14.72               | 35.92                | 2676              | 001369.9                                  | 0416                                  | 1511.7            |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
|                            |              | ST0          | 0300                 | 13.89               | 35.79                | 2684              | 001306.8                                  | 0483                                  | 1509.7            |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
| 133                        |              | OBS          | 0332                 | 13.46               | 35.731               | 2688              |   |                                       | 1508.8            |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
|                            |              | ST0          | 0400                 | 13.02               | 35.70                | 2695              | 001225.1                                  | 0610                                  | 1508.4            |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
| 133                        |              | OBS          | T0443                | 12.56               | 35.637               | 2699              |   |                                       | 1507.5            |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
|                            |              | ST0          | 0500                 | 11.69               | 35.50                | 2705              | 001140.4                                  | 0728                                  | 1505.2            |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
| 133                        |              | OBS          | 0549                 | 10.83               | 35.376               | 2712              |   |                                       | 1502.9            |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
|                            |              | ST0          | 0600                 | 09.68               | 35.24                | 2721              | 000993.3                                  | 0835                                  | 1499.4            |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
| 133                        |              | OBS          | T0658                | 08.53               | 35.119               | 2731              |   |                                       | 1495.9            |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
|                            |              | ST0          | 0700                 | 07.81               | 35.07                | 2738              | 000833.4                                  | 0926                                  | 1493.8            |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
|                            |              | ST0          | 0800                 | 06.39               | 34.99                | 2751              | 000697.6                                  | 1003                                  | 1489.8            |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
| 133                        |              | OBS          | 0882                 | 05.54               | 34.948               | 2759              |   |                                       | 1487.7            |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
|                            |              | ST0          | 0900                 | 05.45               | 34.95                | 2760              | 000610.5                                  | 1068                                  | 1487.6            |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
|                            |              | ST0          | 1000                 | 05.02               | 34.96                | 2766              | 000557.7                                  | 1127                                  | 1487.6            |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
| 133                        |              | OBS          | T1090                | 04.68               | 34.971               | 2771              |   |                                       | 1487.7            |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
|                            |              | ST0          | 1100                 | 04.65               | 34.97                | 2771              | 000512.1                                  | 1180                                  | 1487.7            |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
|                            |              | ST0          | 1200                 | 04.34               | 34.97                | 2774              | 000486.5                                  | 1230                                  | 1488.1            |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
|                            |              | ST0          | 1300                 | 04.10               | 34.96                | 2777              | 000468.8                                  | 1278                                  | 1488.8            |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
|                            |              | ST0          | 1400                 | 03.93               | 34.95                | 2778              | 000460.3                                  | 1324                                  | 1489.7            |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
|                            |              | ST0          | 1500                 | 03.82               | 34.95                | 2779              | 000458.5                                  | 1370                                  | 1491.0            |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |
| 133                        |              | OBS          | T1671                | 03.79               | 34.939               | 2778              |   |                                       | 1493.7            |                     |                                 |                         |                                 |                                 |                                   |                      |     |     |     |                      |                |     |                           |



TABLE V.—Observed and interpolated oceanographic data for stations taken by USCGC ABSECON at Ocean Station DELTA, 13 January–30 January 1968, prepared from NODC listing No. 31-1202 AZ.

| REFERENCE                   | SHIP CODE    | LATITUDE<br>1°/10' | LONGITUDE<br>1°/10' | MARSEEN<br>SQUARE      | STATION TIME (GMT) |                      |                                | YEAR                                | ORIGINATOR'S      |                     | DEPTH<br>TO<br>BOTTOM           | M.A.L.<br>DEPTH<br>OF<br>SAMPLING | WAVE<br>OBSERVATIONS            |                                 |                                   |      | CLOUD<br>CODES    | NODC<br>STATION<br>NUMBER |    |      |
|-----------------------------|--------------|--------------------|---------------------|------------------------|--------------------|----------------------|--------------------------------|-------------------------------------|-------------------|---------------------|---------------------------------|-----------------------------------|---------------------------------|---------------------------------|-----------------------------------|------|-------------------|---------------------------|----|------|
|                             |              |                    |                     |                        | 10°                | 1'                   | MO DAY HR.1/10                 |                                     | CRUISE<br>NO.     | STATION<br>NUMBER   |                                 |                                   | DIR.                            | HGT                             | PER                               | SEA  |                   |                           |    |      |
|                             |              |                    |                     |                        | 149                | 30                   | 01                             |                                     | 13                | 134                 |                                 |                                   | 1968                            | D14                             | 001                               | 4522 |                   |                           | 19 | 31   |
|                             |              |                    |                     | WATER<br>COLOR<br>CODE | WIND               |                      | BARO-<br>METER<br>UNITS        | AIR TEMP. °C                        |                   | VIL<br>CODE         | NO.<br>OBS.<br>DEPTH            | SPECIAL<br>OBSERVATIONS           |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              |                    |                     | TRANSL<br>(m)          | DIR.               | SPEED<br>OF<br>FORCE |                                | DRY<br>BULB                         | WET<br>BULB       |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              |                    |                     | 33                     | 51.5               | 057                  | 064                            | 039                                 | 7                 | 14                  |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
| MESSAGE<br>TIME<br>HR. 1/10 | CASST<br>NO. | CARD<br>TYPE       | DEPTH (m)           | T °C                   | S ‰                | SIGMA-T              | SPECIFIC VOLUME<br>ANOMALY-20° | Δ D<br>DYN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l              | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | PH   | STATION<br>NUMBER |                           |    |      |
| 134                         |              | STD                | 0000                | 1506                   | 3587               | 2664                 | 0014058                        | 0000                                | 15086             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | OBS                | 0000                | 1506                   | 3586.5             | 2664                 |                                |                                     | 15086             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | STD                | 0010                | 1506                   | 3586               | 2664                 | 0014132                        | 0014                                | 15088             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | STD                | 0020                | 1507                   | 3586               | 2664                 | 0014169                        | 0028                                | 15090             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
| 134                         |              | STD                | 0030                | 1507                   | 3586               | 2664                 | 0014206                        | 0042                                | 15092             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | OBS                | 0032                | 1507                   | 3585.8             | 2664                 |                                |                                     | 15092             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | STD                | 0050                | 1506                   | 3586               | 2663                 | 0014286                        | 0071                                | 15095             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | OBS                | 0063                | 1506                   | 3585.4             | 2663                 |                                |                                     | 15097             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
| 134                         |              | STD                | 0075                | 1506                   | 3585               | 2663                 | 0014398                        | 0107                                | 15099             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | OBS                | 0094                | 1505                   | 3584.7             | 2663                 |                                |                                     | 15101             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | STD                | 0100                | 1504                   | 3585               | 2663                 | 0014462                        | 0143                                | 15102             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | STD                | 0125                | 1502                   | 3585               | 2664                 | 0014497                        | 0179                                | 15105             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
| 134                         |              | OBS                | 0126                | 1502                   | 3584.6             | 2664                 |                                |                                     | 15106             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | STD                | 0150                | 1501                   | 3586               | 2665                 | 0014448                        | 0215                                | 15109             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | OBS                | 0189                | 1470                   | 3588.3             | 2674                 |                                |                                     | 15106             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | STD                | 0200                | 1444                   | 3584               | 2676                 | 0013547                        | 0285                                | 15099             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
| 134                         |              | STD                | 0250                | 1349                   | 3568               | 2684                 | 0012920                        | 0351                                | 15074             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | OBS                | T0253               | 1344                   | 3567.7             | 2684                 |                                |                                     | 15073             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | STD                | 0300                | 1331                   | 3566               | 2686                 | 0012860                        | 0416                                | 15076             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | OBS                | 0379                | 1262                   | 3562.5             | 2697                 |                                |                                     | 15066             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
| 134                         |              | STD                | 0400                | 1219                   | 3555               | 2700                 | 0011732                        | 0539                                | 15054             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | STD                | 0500                | 1037                   | 3527               | 2712                 | 0010690                        | 0651                                | 15003             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | OBS                | T0504               | 1030                   | 3526.5             | 2713                 |                                |                                     | 15001             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | STD                | 0600                | 0898                   | 3515               | 2726                 | 0009422                        | 0751                                | 14967             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
| 134                         |              | OBS                | 0631                | 0847                   | 3511.2             | 2731                 |                                |                                     | 14952             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | STD                | 0700                | 0701                   | 3501               | 2745                 | 0007572                        | 0836                                | 14906             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | OBS                | T0751               | 0616                   | 3495.5             | 2752                 |                                |                                     | 14880             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | STD                | 0800                | 0585                   | 3496               | 2756                 | 0006445                        | 0907                                | 14876             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
| 134                         |              | STD                | 0900                | 0530                   | 3497               | 2764                 | 0005757                        | 0968                                | 14871             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | STD                | 1000                | 0489                   | 3497               | 2769                 | 0005333                        | 1023                                | 14871             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | OBS                | 1008                | 0486                   | 3497.4             | 2769                 |                                |                                     | 14871             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | STD                | 1100                | 0468                   | 3498               | 2772                 | 0005094                        | 1075                                | 14879             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
| 134                         |              | STD                | 1200                | 0451                   | 3498               | 2774                 | 0004976                        | 1125                                | 14888             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | OBS                | 1259                | 0441                   | 3498.5             | 2775                 |                                |                                     | 14894             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | STD                | 1300                | 0435                   | 3498               | 2776                 | 0004845                        | 1175                                | 14899             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | STD                | 1400                | 0421                   | 3498               | 2777                 | 0004786                        | 1223                                | 14910             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
| 134                         |              | STD                | 1500                | 0409                   | 3498               | 2778                 | 0004750                        | 1270                                | 14921             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | STD                | 1750                | 0366                   | 3497               | 2779                 | 0004736                        | 1389                                | 14954             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | OBS                | T1885               | 0379                   | 3496.0             | 2780                 |                                |                                     | 14974             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              |                    |                     |                        |                    |                      |                                |                                     |                   |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
| REFERENCE                   | SHIP CODE    | LATITUDE<br>1°/10' | LONGITUDE<br>1°/10' | MARSEEN<br>SQUARE      | STATION TIME (GMT) |                      |                                | YEAR                                | ORIGINATOR'S      |                     | DEPTH<br>TO<br>BOTTOM           | M.A.L.<br>DEPTH<br>OF<br>SAMPLING | WAVE<br>OBSERVATIONS            |                                 |                                   |      | CLOUD<br>CODES    | NODC<br>STATION<br>NUMBER |    |      |
| 311202                      | AZ           | 4313 N             | 04128 W             | 149 31                 | 01                 | 25                   | 147                            | 1968                                | D14               | 002                 | 4572                            | 11                                | 12                              | 5                               | 2                                 |      | X2                | 8                         | 7  | 0002 |
|                             |              |                    |                     | WATER<br>COLOR<br>CODE | WIND               |                      | BARO-<br>METER<br>UNITS        | AIR TEMP. °C                        |                   | VIL<br>CODE         | NO.<br>OBS.<br>DEPTH            | SPECIAL<br>OBSERVATIONS           |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              |                    |                     | TRANSL<br>(m)          | DIR.               | SPEED<br>OF<br>FORCE |                                | DRY<br>BULB                         | WET<br>BULB       |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              |                    |                     | 13                     | 51.9               | 234                  | 157                            | 138                                 | 7                 | 14                  |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
| MESSAGE<br>TIME<br>HR. 1/10 | CASST<br>NO. | CARD<br>TYPE       | DEPTH (m)           | T °C                   | S ‰                | SIGMA-T              | SPECIFIC VOLUME<br>ANOMALY-20° | Δ D<br>DYN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l              | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | PH   | STATION<br>NUMBER |                           |    |      |
| 147                         |              | STD                | 0000                | 1536                   | 3606               | 2673                 | 0013248                        | 0000                                | 15098             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | OBS                | 0000                | 1536                   | 3606.3             | 2673                 |                                |                                     | 15098             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | STD                | 0010                | 1536                   | 3606               | 2673                 | 0013272                        | 0013                                | 15100             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | STD                | 0020                | 1536                   | 3607               | 2673                 | 0013289                        | 0027                                | 15102             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
| 147                         |              | OBS                | 0021                | 1536                   | 3606.6             | 2673                 |                                |                                     | 15102             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | STD                | 0030                | 1537                   | 3606               | 2672                 | 0013375                        | 0040                                | 15103             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | OBS                | 0040                | 1537                   | 3605.4             | 2672                 |                                |                                     | 15105             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | STD                | 0050                | 1537                   | 3606               | 2672                 | 0013485                        | 0067                                | 15107             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
| 147                         |              | OBS                | 0063                | 1536                   | 3605.7             | 2672                 |                                |                                     | 15109             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | STD                | 0075                | 1536                   | 3606               | 2673                 | 0013494                        | 0100                                | 15110             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | OBS                | 0085                | 1535                   | 3606.2             | 2673                 |                                |                                     | 15112             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | STD                | 0100                | 1535                   | 3606               | 2673                 | 0013533                        | 0134                                | 15114             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
| 147                         |              | STD                | 0125                | 1536                   | 3607               | 2673                 | 0013594                        | 0168                                | 15119             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | OBS                | 0128                | 1536                   | 3606.9             | 2673                 |                                |                                     | 15119             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | STD                | 0150                | 1541                   | 3608               | 2673                 | 0013701                        | 0202                                | 15125             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | OBS                | T0171               | 1544                   | 3608.2             | 2672                 |                                |                                     | 15129             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
| 147                         |              | STD                | 0200                | 1542                   | 3608               | 2673                 | 0013898                        | 0271                                | 15133             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | STD                | 0250                | 1538                   | 3607               | 2673                 | 0014041                        | 0341                                | 15140             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | OBS                | 0254                | 1538                   | 3606.7             | 2673                 |                                |                                     | 15141             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | STD                | 0300                | 1411                   | 3581               | 2681                 | 0013374                        | 0410                                | 15105             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
| 147                         |              | OBS                | T0331               | 1352                   | 3570.7             | 2685                 |                                |                                     | 15089             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | STD                | 0400                | 1311                   | 3569               | 2692                 | 0012503                        | 0539                                | 15087             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | OBS                | 0412                | 1298                   | 3567.2             | 2694                 |                                |                                     | 15084             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | OBS                | T0494               | 1158                   | 3545.7             | 2704                 |                                |                                     | 15047             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
| 147                         |              | STD                | 0500                | 1148                   | 3544               | 2705                 | 0011450                        | 0659                                | 15044             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | STD                | 0600                | 0957                   | 3521               | 2721                 | 0009966                        | 0766                                | 14989             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | OBS                | 0632                | 0889                   | 3515.4             | 2728                 |                                |                                     | 14969             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | STD                | 0700                | 0725                   | 3506               | 2745                 | 0007553                        | 0854                                | 14916             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
| 147                         |              | OBS                | T0727               | 0670                   | 3503.3             | 2751                 |                                |                                     | 14899             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | STD                | 0800                | 0631                   | 3502               | 2755                 | 0006619                        | 0924                                | 14896             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | STD                | 0900                | 0579                   | 3501               | 2761                 | 0006107                        | 0988                                | 14891             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | STD                | 1000                | 0526                   | 3500               | 2767                 | 0005601                        | 1047                                | 14886             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
| 147                         |              | STD                | 1100                | 0473                   | 3499               | 2772                 | 0005099                        | 1100                                | 14881             |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |
|                             |              | OBS                | T1115               |                        |                    |                      |                                |                                     |                   |                     |                                 |                                   |                                 |                                 |                                   |      |                   |                           |    |      |



TABLE V.—Continued

| REFERENCE                  | SHIP CODE   | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MARS DEN<br>SQUARE | STATION TIME<br>(GMT) |           |                                  | YEAR                                  | ORIGINATOR'S      |                     | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLES | WAVE<br>OBSERVATIONS            |                                 |                                    | WEA-<br>THER<br>CODE | CLOUD<br>CODES |      | NOOC<br>STATION<br>NUMBER |
|----------------------------|-------------|--------------------|---------------------|--------------------|-----------------------|-----------|----------------------------------|---------------------------------------|-------------------|---------------------|---------------------------------|--------------------------------|---------------------------------|---------------------------------|------------------------------------|----------------------|----------------|------|---------------------------|
|                            |             |                    |                     |                    | 10"                   | 1"        | MO DAY HR. 1/10                  |                                       | CRUISE<br>NO.     | STATION<br>NUMBER   |                                 |                                | DIR                             | HGT                             | PER                                |                      | SEA            | 1/10 |                           |
| 311202                     | AZ          | 4401 N             | 04101 W             | 149                | 41                    | 01 26 128 | 1968                             | 014                                   | 003               | 4389                | 43                              | 12                             | 3                               |                                 |                                    | X1                   | 8 2            | 0003 |                           |
|                            |             |                    |                     |                    |                       |           |                                  |                                       |                   |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
|                            |             |                    |                     | WATER              |                       | WIND      |                                  | BARO-<br>METER                        |                   | AIR TEMP. °C        |                                 | NO. OBS.                       |                                 | SPECIAL<br>OBSERVATIONS         |                                    |                      |                |      |                           |
|                            |             |                    |                     | COLOR<br>CODE      | TRANSP.<br>MM         | DIR.      | SPEED<br>OF<br>FORCE             | DRY<br>RULE                           | WET<br>RULE       | VIL<br>CODE         | DEPTHS                          |                                |                                 |                                 |                                    |                      |                |      |                           |
|                            |             |                    |                     | 10                 | 10                    | 10        | 295                              | 150                                   | 126               | 7                   | 20                              |                                |                                 |                                 |                                    |                      |                |      |                           |
| MESSAGE<br>TIME<br>HR 1/10 | CAST<br>NO. | CARD<br>TYPE       | DEPTH (m)           | T °C               | S ‰                   | SIGMA-T   | SPECIFIC VOLUME<br>AND WALT-318° | Σ Δ D<br>DYN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l           | NO <sub>2</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | Si O <sub>4</sub> -Si<br>μg - ml/l | pH                   | 1<br>C         |      |                           |
| 128                        |             | STD                | 0000                | 1509               | 3595                  | 2670      | 0013486                          | 0000                                  | 15088             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
|                            |             | OBS                | 0000                | 1509               | 35952                 | 2670      |                                  |                                       | 15088             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
|                            |             | STD                | 0010                | 1508               | 3595                  | 2671      | 0013485                          | 0013                                  | 15090             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
| 128                        |             | STD                | 0020                | 1507               | 3596                  | 2671      | 0013482                          | 0027                                  | 15091             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
|                            |             | OBS                | 0024                | 1507               | 35957                 | 2671      |                                  |                                       | 15092             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
|                            |             | STD                | 0030                | 1508               | 3596                  | 2671      | 0013528                          | 0040                                  | 15093             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
| 128                        |             | OBS                | 0049                | 1510               | 35952                 | 2670      |                                  |                                       | 15097             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
|                            |             | STD                | 0050                | 1510               | 3595                  | 2670      | 0013661                          | 0068                                  | 15097             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
|                            |             | OBS                | 0073                | 1510               | 35956                 | 2670      |                                  |                                       | 15101             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
| 128                        |             | STD                | 0075                | 1510               | 3596                  | 2670      | 0013709                          | 0102                                  | 15101             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
|                            |             | OBS                | 0098                | 1507               | 35960                 | 2671      |                                  |                                       | 15104             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
|                            |             | STD                | 0100                | 1507               | 3596                  | 2671      | 0013693                          | 0136                                  | 15104             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
| 128                        |             | STD                | 0125                | 1505               | 3596                  | 2672      | 0013728                          | 0170                                  | 15108             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
|                            |             | OBS                | 0147                | 1504               | 35955                 | 2672      |                                  |                                       | 15111             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
|                            |             | STD                | 0150                | 1504               | 3596                  | 2672      | 0013819                          | 0205                                  | 15111             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
| 128                        |             | OBS                | T0198               | 1504               | 35958                 | 2672      |                                  |                                       | 15119             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
|                            |             | STD                | 0200                | 1501               | 3595                  | 2672      | 0013944                          | 0274                                  | 15119             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
|                            |             | STD                | 0250                | 1439               | 3586                  | 2679      | 0013445                          | 0343                                  | 15106             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
| 128                        |             | OBS                | 0293                | 1390               | 35793                 | 2684      |                                  |                                       | 15096             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
|                            |             | STD                | 0300                | 1386               | 3579                  | 2684      | 0013007                          | 0409                                  | 15096             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
|                            |             | OBS                | T0388               | 1301               | 35696                 | 2695      |                                  |                                       | 15081             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
| 128                        |             | STD                | 0400                | 1283               | 3567                  | 2696      | 0012095                          | 0534                                  | 15077             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
|                            |             | OBS                | 0483                | 1138               | 35445                 | 2707      |                                  |                                       | 15038             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
|                            |             | STD                | 0500                | 1096               | 3539                  | 2710      | 0010862                          | 0649                                  | 15025             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
| 128                        |             | OBS                | T0576               | 0926               | 35173                 | 2723      |                                  |                                       | 14974             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
|                            |             | STD                | 0600                | 0875               | 3514                  | 2729      | 0009122                          | 0749                                  | 14958             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
|                            |             | STD                | 0700                | 0697               | 3504                  | 2747      | 0007293                          | 0831                                  | 14905             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
| 128                        |             | OBS                | 0763                | 0613               | 34995                 | 2755      |                                  |                                       | 14882             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
|                            |             | STD                | 0800                | 0586               | 3499                  | 2758      | 0006238                          | 0899                                  | 14877             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
|                            |             | STD                | 0900                | 0522               | 3498                  | 2765      | 0005577                          | 0958                                  | 14868             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
| 128                        |             | OBS                | 0950                | 0495               | 34976                 | 2768      |                                  |                                       | 14865             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
|                            |             | STD                | 1000                | 0483               | 3497                  | 2769      | 0005254                          | 1012                                  | 14868             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
|                            |             | STD                | 1100                | 0461               | 3497                  | 2772      | 0005076                          | 1064                                  | 14876             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
| 128                        |             | STD                | 1200                | 0442               | 3496                  | 2773      | 0005005                          | 1114                                  | 14884             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
|                            |             | STD                | 1300                | 0424               | 3496                  | 2775      | 0004869                          | 1163                                  | 14894             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
|                            |             | STD                | 1400                | 0409               | 3496                  | 2777      | 0004768                          | 1212                                  | 14904             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
| 128                        |             | OBS                | T1431               | 0405               | 34955                 | 2777      |                                  |                                       | 14908             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
|                            |             | STD                | 1500                | 0399               | 3495                  | 2777      | 0004778                          | 1259                                  | 14917             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
|                            |             | STD                | 1750                | 0380               | 3495                  | 2779      | 0004785                          | 1379                                  | 14951             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
| 128                        |             | OBS                | T1959               | 0366               | 34942                 | 2780      |                                  |                                       | 14980             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
|                            |             | STD                | 2000                | 0364               | 3494                  | 2780      | 0004800                          | 1499                                  | 14987             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
|                            |             | OBS                | T2458               | 0340               | 34945                 | 2783      |                                  |                                       | 15055             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
| 128                        |             | STD                | 2500                | 0337               | 3495                  | 2783      | 0004755                          | 1738                                  | 15061             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
|                            |             | OBS                | 2948                | 0303               | 34940                 | 2786      |                                  |                                       | 15123             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
|                            |             | STD                | 3000                | 0299               | 3494                  | 2786      | 0004576                          | 1971                                  | 15131             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
| 128                        |             | OBS                | 3442                | 0266               | 34937                 | 2789      |                                  |                                       | 15194             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
|                            |             | OBS                | T3964               | 0240               | 34910                 | 2789      |                                  |                                       | 15274             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
|                            |             | STD                | 4000                | 0239               | 3491                  | 2789      | 0004366                          | 2418                                  | 15280             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |
| 128                        |             | OBS                | T4262               | 0233               | 34910                 | 2789      |                                  |                                       | 15324             |                     |                                 |                                |                                 |                                 |                                    |                      |                |      |                           |



TABLE V.—Continued

| REFERENCE<br>CITY<br>CODE  | SHIP<br>CODE | LATITUDE<br>1/10 | LONGITUDE<br>1/10 | MARSSEN<br>SQUARE | STATION TIME<br>(GMT) |              |                                | YEAR                                  | ORIGINATOR'S      |                     | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLES | WAVE<br>OBSERVATIONS            |                                 |                                    | WEA-<br>THER<br>CODE | CLOUD<br>CODES       | NODC<br>STATION<br>NUMBER |
|----------------------------|--------------|------------------|-------------------|-------------------|-----------------------|--------------|--------------------------------|---------------------------------------|-------------------|---------------------|---------------------------------|--------------------------------|---------------------------------|---------------------------------|------------------------------------|----------------------|----------------------|---------------------------|
|                            |              |                  |                   |                   | 10'                   | 1"           | MO. DAY HEL/10                 |                                       | CRUISE<br>NO.     | STATION<br>NUMBER   |                                 |                                | DIR.                            | HGT.                            | PER.                               |                      |                      |                           |
|                            |              |                  |                   |                   |                       |              |                                |                                       |                   |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
| 311202                     | AZ           | 4404 N           | 04058 W           | 149 40            | 01                    | 27           | 127                            | 1968                                  | D14               | 004                 | 4572                            | 16                             | 20                              | 1                               |                                    | X1                   | 8 2                  | 0004                      |
|                            |              |                  |                   |                   |                       |              |                                |                                       |                   |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              |                  |                   |                   | WATER                 |              | WIND                           |                                       | BARO-<br>METER    |                     | AIR TEMP. °C                    |                                | VIS.<br>CODE                    | NO.<br>OBS.<br>DEPTHS           | SPECIAL<br>OBSERVATIONS            |                      |                      |                           |
|                            |              |                  |                   |                   | COLOR<br>CODE         | TRAN-<br>SM. | DIR.                           | SPEED<br>OR<br>FORCE                  | DRY<br>RUL.       | WET<br>RUL.         |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              |                  |                   |                   | 18                    | 510          |                                | 268                                   | 147               | 108                 | 7                               | 14                             |                                 |                                 |                                    |                      |                      |                           |
| MESSAGE<br>TIME<br>HR 1/10 | CAST<br>NO.  | CARD<br>TYPE     | DEPTH (m)         | T °C              | S ‰                   | SIGMA-T      | SPECIFIC VOLUME<br>ANOMALY-20° | Σ Δ D<br>DYN. M.<br>X 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l           | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | Si O <sub>4</sub> -Si<br>μg - ml/l | pH                   | S<br>CO <sub>2</sub> |                           |
|                            |              | STD              | 0000              | 1522              | 3601                  | 2672         | 0013330                        | 0000                                  | 15093             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
| 127                        |              | OBS              | 0000              | 1522              | 36011                 | 2672         |                                |                                       | 15093             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 0010              | 1521              | 3602                  | 2673         | 0013287                        | 0013                                  | 15095             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 0020              | 1520              | 3602                  | 2673         | 0013248                        | 0027                                  | 15096             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
| 127                        |              | OBS              | 0026              | 1519              | 36028                 | 2674         |                                |                                       | 15097             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 0030              | 1520              | 3603                  | 2674         | 0013262                        | 0040                                  | 15098             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 0050              | 1525              | 3602                  | 2672         | 0013444                        | 0067                                  | 15102             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
| 127                        |              | OBS              | 0052              | 1525              | 36024                 | 2672         |                                |                                       | 15103             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 0075              | 1524              | 3602                  | 2672         | 0013515                        | 0100                                  | 15106             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
| 127                        |              | OBS              | 0080              | 1524              | 36024                 | 2672         |                                |                                       | 15107             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 0100              | 1523              | 3603                  | 2673         | 0013542                        | 0134                                  | 15110             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
| 127                        |              | OBS              | 0106              | 1522              | 36027                 | 2673         |                                |                                       | 15111             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 0125              | 1522              | 3603                  | 2673         | 0013616                        | 0168                                  | 15114             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 0150              | 1522              | 3602                  | 2673         | 0013715                        | 0202                                  | 15118             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
| 127                        |              | OBS              | 0160              | 1522              | 36021                 | 2673         |                                |                                       | 15120             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 0200              | 1524              | 3602                  | 2672         | 0013902                        | 0271                                  | 15127             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
| 127                        |              | OBS              | T0215             | 1524              | 36022                 | 2672         |                                |                                       | 15129             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 0250              | 1474              | 3593                  | 2676         | 0013669                        | 0340                                  | 15118             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 0300              | 1408              | 3582                  | 2682         | 0013240                        | 0407                                  | 15104             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
| 127                        |              | OBS              | 0321              | 1383              | 35783                 | 2685         |                                |                                       | 15099             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 0400              | 1315              | 3571                  | 2693         | 0012437                        | 0536                                  | 15088             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
| 127                        |              | OBS              | T0427             | 1274              | 35659                 | 2697         |                                |                                       | 15078             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 0500              | 1100              | 3539                  | 2710         | 0010935                        | 0653                                  | 15027             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
| 127                        |              | OBS              | 0534              | 1026              | 35291                 | 2715         |                                |                                       | 15005             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 0600              | 0894              | 3514                  | 2726         | 0009430                        | 0754                                  | 14965             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
| 127                        |              | OBS              | T0638             | 0828              | 35072                 | 2731         |                                |                                       | 14946             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 0700              | 0751              | 3507                  | 2742         | 0007875                        | 0841                                  | 14927             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 0800              | 0645              | 3507                  | 2757         | 0006503                        | 0913                                  | 14902             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
| 127                        |              | OBS              | 0848              | 0603              | 35064                 | 2762         |                                |                                       | 14893             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 0900              | 0569              | 3504                  | 2764         | 0005768                        | 0974                                  | 14887             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 1000              | 0511              | 3501                  | 2769         | 0005329                        | 1030                                  | 14880             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
| 127                        |              | OBS              | T1051             | 0486              | 34994                 | 2771         |                                |                                       | 14878             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 1100              | 0477              | 3499                  | 2771         | 0005147                        | 1082                                  | 14883             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 1200              | 0459              | 3498                  | 2773         | 0005079                        | 1133                                  | 14892             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 1300              | 0441              | 3497                  | 2774         | 0005006                        | 1184                                  | 14901             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 1400              | 0422              | 3496                  | 2775         | 0004937                        | 1233                                  | 14910             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 1500              | 0404              | 3495                  | 2777         | 0004853                        | 1282                                  | 14919             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
| 127                        |              | OBS              | T1594             | 0387              | 34943                 | 2778         |                                |                                       | 14927             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |

| REFERENCE<br>CITY<br>CODE  | SHIP<br>CODE | LATITUDE<br>1/10 | LONGITUDE<br>1/10 | MARSSEN<br>SQUARE | STATION TIME<br>(GMT) |              |                                | YEAR                                  | ORIGINATOR'S      |                     | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLES | WAVE<br>OBSERVATIONS            |                                 |                                    | WEA-<br>THER<br>CODE | CLOUD<br>CODES       | NODC<br>STATION<br>NUMBER |
|----------------------------|--------------|------------------|-------------------|-------------------|-----------------------|--------------|--------------------------------|---------------------------------------|-------------------|---------------------|---------------------------------|--------------------------------|---------------------------------|---------------------------------|------------------------------------|----------------------|----------------------|---------------------------|
|                            |              |                  |                   |                   | 10'                   | 1"           | MO. DAY HEL/10                 |                                       | CRUISE<br>NO.     | STATION<br>NUMBER   |                                 |                                | DIR.                            | HGT.                            | PER.                               |                      |                      |                           |
|                            |              |                  |                   |                   |                       |              |                                |                                       |                   |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
| 311202                     | AZ           | 4407 N           | 04051 W           | 149 40            | 01                    | 28           | 132                            | 1968                                  | D14               | 005                 | 4572                            | 15                             | 20                              | 3                               |                                    | X1                   | 3 5                  | 0005                      |
|                            |              |                  |                   |                   |                       |              |                                |                                       |                   |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              |                  |                   |                   | WATER                 |              | WIND                           |                                       | BARO-<br>METER    |                     | AIR TEMP. °C                    |                                | VIS.<br>CODE                    | NO.<br>OBS.<br>DEPTHS           | SPECIAL<br>OBSERVATIONS            |                      |                      |                           |
|                            |              |                  |                   |                   | COLOR<br>CODE         | TRAN-<br>SM. | DIR.                           | SPEED<br>OR<br>FORCE                  | DRY<br>RUL.       | WET<br>RUL.         |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              |                  |                   |                   | 20                    | 513          |                                | 161                                   | 150               | 118                 | 7                               | 14                             |                                 |                                 |                                    |                      |                      |                           |
| MESSAGE<br>TIME<br>HR 1/10 | CAST<br>NO.  | CARD<br>TYPE     | DEPTH (m)         | T °C              | S ‰                   | SIGMA-T      | SPECIFIC VOLUME<br>ANOMALY-20° | Σ Δ D<br>DYN. M.<br>X 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l           | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | Si O <sub>4</sub> -Si<br>μg - ml/l | pH                   | S<br>CO <sub>2</sub> |                           |
|                            |              | STD              | 0000              | 1518              | 3601                  | 2672         | 0013282                        | 0000                                  | 15092             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
| 132                        |              | OBS              | 0000              | 1518              | 36006                 | 2672         |                                |                                       | 15092             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 0010              | 1516              | 3601                  | 2673         | 0013284                        | 0013                                  | 15093             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 0020              | 1515              | 3600                  | 2673         | 0013288                        | 0027                                  | 15094             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
| 132                        |              | OBS              | 0024              | 1514              | 36004                 | 2673         |                                |                                       | 15095             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 0030              | 1515              | 3600                  | 2673         | 0013333                        | 0040                                  | 15096             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
| 132                        |              | OBS              | 0048              | 1516              | 36001                 | 2673         |                                |                                       | 15099             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 0050              | 1516              | 3600                  | 2672         | 0013435                        | 0067                                  | 15100             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
| 132                        |              | OBS              | 0074              | 1518              | 36004                 | 2672         |                                |                                       | 15104             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 0075              | 1518              | 3600                  | 2672         | 0013529                        | 0100                                  | 15104             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
| 132                        |              | OBS              | 0098              | 1516              | 36006                 | 2673         |                                |                                       | 15107             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 0100              | 1516              | 3601                  | 2673         | 0013549                        | 0134                                  | 15108             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 0125              | 1516              | 3600                  | 2673         | 0013638                        | 0168                                  | 15112             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
| 132                        |              | OBS              | 0147              | 1515              | 36001                 | 2673         |                                |                                       | 15115             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 0150              | 1516              | 3600                  | 2672         | 0013747                        | 0202                                  | 15116             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
| 132                        |              | OBS              | T0194             | 1518              | 35995                 | 2672         |                                |                                       | 15124             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 0200              | 1514              | 3599                  | 2672         | 0013931                        | 0272                                  | 15123             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 0250              | 1473              | 3593                  | 2677         | 0013647                        | 0341                                  | 15118             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
| 132                        |              | OBS              | 0283              | 1442              | 35878                 | 2679         |                                |                                       | 15113             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 0300              | 1426              | 3585                  | 2681         | 0013394                        | 0408                                  | 15110             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
| 132                        |              | OBS              | T0387             | 1320              | 35698                 | 2691         |                                |                                       | 15088             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 0400              | 1300              | 3567                  | 2693         | 0012430                        | 0537                                  | 15083             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
| 132                        |              | OBS              | 0487              | 1142              | 35446                 | 2706         |                                |                                       | 15040             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 0500              | 1109              | 3540                  | 2709         | 0011025                        | 0655                                  | 15030             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
| 132                        |              | OBS              | T0586             | 0912              | 35159                 | 2724         |                                |                                       | 14970             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 0600              | 0882              | 3514                  | 2728         | 0009235                        | 0756                                  | 14961             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 0700              | 0702              | 3502                  | 2745         | 0007514                        | 0840                                  | 14907             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
| 132                        |              | OBS              | 0778              | 0603              | 34963                 | 2754         |                                |                                       | 14880             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 0800              | 0552              | 3497                  | 2756         | 0006467                        | 0910                                  | 14879             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 0900              | 0546              | 3499                  | 2763         | 0005824                        | 0971                                  | 14877             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
| 132                        |              | OBS              | T0978             | 0514              | 35001                 | 2768         |                                |                                       | 14878             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 1000              | 0506              | 3500                  | 2769         | 0005351                        | 1027                                  | 14878             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 1100              | 0471              | 3499                  | 2772         | 0005096                        | 1079                                  | 14880             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 1200              | 0443              | 3497                  | 2774         | 0004930                        | 1129                                  | 14885             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 1300              | 0420              | 3496                  | 2775         | 0004817                        | 1178                                  | 14892             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
|                            |              | STD              | 1400              | 0403              | 3495                  | 2776         | 0004784                        | 1226                                  | 14902             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |
| 132                        |              | OBS              | T1482             | 0394              | 34936                 | 2776         |                                |                                       | 14911             |                     |                                 |                                |                                 |                                 |                                    |                      |                      |                           |



TABLE V.—Continued

| REFERENCE<br>CRUISE<br>CODE | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | E<br>OR<br>W  | MARS DEN<br>SQUARE |         | STATION TIME<br>(GMT)               |                | YEAR                                   | ORIGINATOR'S      |      | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPLING | WAVE<br>OBSERVATIONS    |                                 |                                 | WEA-<br>THER<br>CODE             | CLOUD<br>CODES | NODL<br>STATION<br>NUMBER |     |     |      |
|-----------------------------|--------------|--------------------|---------------------|---------------|--------------------|---------|-------------------------------------|----------------|--|-------------------|------|-----------------------|---------------------------------|-------------------------|---------------------------------|---------------------------------|----------------------------------|----------------|---------------------------|-----|-----|------|
|                             |              |                    |                     |               | 10"                | 1"      | MO                                  | DAY            |  | HR                | 1/10 |                       |                                 | CRUISE<br>NO.           | STATION<br>NUMBER               | DIR.                            |                                  |                |                           | HGT | PER | SEA  |
| 311202                      | AZ           | 4341 N             | 04026 W             |               | 149 30             | 01 30   | 195                                 | 1968           |  | 014               | 006  |                       | 4572                            | 15                      | 01                              | 6                               | 3                                |                | X1                        | 6 6 |     | 0006 |
|                             |              |                    |                     |               |                    |         |                                     |                |  |                   |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |
|                             |              |                    |                     | WATER         |                    | WIND    |                                     | BARO-<br>METER |  | AIR TEMP. °C      |      | VIL<br>CODE           | NO.<br>OBS.<br>DEPTHS           | SPECIAL<br>OBSERVATIONS |                                 |                                 |                                  |                |                           |     |     |      |
|                             |              |                    |                     | COLOR<br>CODE | TRANS-<br>MIT      | DIR.    | SPEED<br>OR<br>FORCE                | UNIT           | DRY<br>BULB                            | WET<br>BULB       |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |
|                             |              |                    |                     |               |                    |         | 07                                  | 507            | 338                                    | 076               | 042  | 7                     | 14                              |                         |                                 |                                 |                                  |                |                           |     |     |      |
| MISSING<br>TIME<br>HR 1/10  | CARD<br>NO.  | CARD<br>TYPE       | DEPTH (m)           | T °C          | S ‰                | SIGMA-T | TEMP. VOLUME<br>ANOMALY- $\sigma_t$ |                | S.A.D.<br>CTD, M.<br>x 10 <sup>2</sup> | SOUND<br>VELOCITY |      | O <sub>2</sub> ml/l   | PO <sub>2</sub> -P<br>pg - ml/l | TOTAL-P<br>pg - ml/l    | NO <sub>2</sub> -N<br>pg - ml/l | NO <sub>3</sub> -N<br>pg - ml/l | SIO <sub>4</sub> -S<br>pg - ml/l | pH             | CHL                       |     |     |      |
| 195                         |              | STD                | 0000                | 1585          | 3612               | 2666    | 0013874                             |                | 0000                                   | 15114             |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |
|                             |              | OBS                | 0000                | 1585          | 36122              | 2666    |                                     |                |  | 15114             |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |
|                             |              | STD                | 0010                | 1584          | 3612               | 2666    | 0013911                             |                | 0014                                   | 15116             |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |
|                             |              | STD                | 0020                | 1583          | 3612               | 2666    | 0013947                             |                | 0028                                   | 15117             |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |
| 195                         |              | OBS                | 0025                | 1583          | 36114              | 2666    |                                     |                |  | 15118             |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |
|                             |              | STD                | 0030                | 1584          | 3612               | 2666    | 0013963                             |                | 0042                                   | 15119             |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |
| 195                         |              | OBS                | 0049                | 1586          | 36128              | 2666    |                                     |                |  | 15123             |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |
|                             |              | STD                | 0050                | 1586          | 3613               | 2666    | 0014012                             |                | 0070                                   | 15123             |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |
|                             |              | STD                | 0075                | 1587          | 3613               | 2666    | 0014114                             |                | 0105                                   | 15127             |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |
| 195                         |              | OBS                | 0075                | 1587          | 36128              | 2666    |                                     |                |  | 15127             |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |
| 195                         |              | OBS                | 0099                | 1584          | 36125              | 2667    |                                     |                |  | 15130             |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |
|                             |              | STD                | 0100                | 1584          | 3613               | 2667    | 0014150                             |                | 0140                                   | 15130             |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |
|                             |              | STD                | 0125                | 1584          | 3613               | 2667    | 0014230                             |                | 0176                                   | 15134             |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |
| 195                         |              | STD                | 0150                | 1584          | 3613               | 2667    | 0014310                             |                | 0211                                   | 15139             |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |
|                             |              | OBS                | 0150                | 1584          | 36125              | 2667    |                                     |                |  | 15139             |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |
|                             |              | STD                | 0200                | 1535          | 3603               | 2671    | 0014062                             |                | 0282                                   | 15130             |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |
| 195                         |              | OBS                | T0201               | 1534          | 36032              | 2671    |                                     |                |  | 15130             |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |
|                             |              | STD                | 0250                | 1459          | 3590               | 2677    | 0013571                             |                | 0351                                   | 15113             |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |
| 195                         |              | OBS                | 0298                | 1392          | 35794              | 2683    |                                     |                |  | 15098             |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |
|                             |              | STD                | 0300                | 1391          | 3579               | 2683    | 0013109                             |                | 0418                                   | 15098             |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |
| 195                         |              | OBS                | T0398               | 1277          | 35657              | 2697    |                                     |                |  | 15074             |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |
|                             |              | STD                | 0400                | 1272          | 3565               | 2697    | 0012026                             |                | 0544                                   | 15073             |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |
| 195                         |              | OBS                | 0498                | 1067          | 35318              | 2710    |                                     |                |  | 15014             |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |
|                             |              | STD                | 0500                | 1064          | 3532               | 2711    | 0010830                             |                | 0658                                   | 15013             |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |
| 195                         |              | OBS                | T0599               | 0930          | 35193              | 2724    |                                     |                |  | 14979             |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |
|                             |              | STD                | 0600                | 0928          | 3519               | 2724    | 0009625                             |                | 0760                                   | 14978             |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |
|                             |              | STD                | 0700                | 0735          | 3507               | 2744    | 0007635                             |                | 0847                                   | 14920             |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |
| 195                         |              | OBS                | 0796                | 0605          | 35000              | 2757    |                                     |                |  | 14884             |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |
|                             |              | STD                | 0800                | 0603          | 3500               | 2757    | 0006390                             |                | 0917                                   | 14884             |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |
|                             |              | STD                | 0900                | 0550          | 3502               | 2765    | 0005694                             |                | 0977                                   | 14879             |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |
| 195                         |              | OBS                | T0986               | 0510          | 35028              | 2771    |                                     |                |  | 14878             |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |
|                             |              | STD                | 1000                | 0504          | 3503               | 2771    | 0005118                             |                | 1031                                   | 14877             |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |
|                             |              | STD                | 1100                | 0466          | 3501               | 2774    | 0004847                             |                | 1081                                   | 14878             |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |
|                             |              | STD                | 1200                | 0436          | 3499               | 2776    | 0004678                             |                | 1129                                   | 14882             |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |
|                             |              | STD                | 1300                | 0414          | 3498               | 2778    | 0004607                             |                | 1175                                   | 14890             |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |
| 195                         |              | STD                | 1400                | 0399          | 3496               | 2778    | 0004615                             |                | 1221                                   | 14900             |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |
|                             |              | OBS                | T1492               | 0392          | 34948              | 2777    |                                     |                |  | 14912             |      |                       |                                 |                         |                                 |                                 |                                  |                |                           |     |     |      |



TABLE VI.—Observed and interpolated oceanographic data for stations taken by USCGC CASCO at Ocean Station DELTA, 28 February–19 March 1968, prepared from NODC listing No. 31-1210 CS.

| REFERENCE                  |             | SHIP<br>CODE | LATITUDE<br>° ' 10" | LONGITUDE<br>° ' 10" | WAVE<br>SQUARE | STATION TIME<br>(GMT) |   |                                       |                   | YEAR                | ORIGINATOR'S                    |                      | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLE   | WAVE<br>OBSERVATIONS              |    |     | WEA-<br>THER<br>CODE | CLOUD<br>CODE | NODC<br>STATION<br>NUMBER |     |
|----------------------------|-------------|--------------|---------------------|----------------------|----------------|-----------------------|---|---------------------------------------|-------------------|---------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|----|-----|----------------------|---------------|---------------------------|-----|
| CTD<br>CODE                | ID.<br>NO.  |              |                     |                      |                | 10"                   | 1"  | MO                                    | DAY               |                     | HR                              | CRUISE<br>NO.        |                                 |                                 | STATION<br>NUMBER                 | OR | HGT |                      |               |                           | PER |
| 311210                     | CS          | 4401 N       | 04103 W             | 149 41               | 02             | 28                    | 130                                       | 1968                                  | 015               | 001                 | 4527                            | 15                   | 32                              | 2                               | 3                                 |    | X1  | 8                    | 4             | 0001                      |     |
|                            |             |              |                     |                      |                |                       |   |                                       |                   |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |
|                            |             |              |                     | WATER                |                | WIND                  |   | BARO-<br>METER                        |                   | AIR TEMP. °C        |                                 | VIL<br>CODE          | NO.<br>OBS.<br>DEPTHS           | SPECIAL<br>OBSERVATIONS         |                                   |    |     |                      |               |                           |     |
|                            |             |              |                     | COLOR<br>CODE        | TRANS<br>m     | DIR.                  | SPEED<br>OF<br>FORCE                      | mbal                                  | mbal              | DRY<br>BULB         | WET<br>BULB                     |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |
|                            |             |              |                     |                      |                |                       |   | 33                                    | 511               | 200                 | 092                             | 057                  | 7                               |                                 |                                   | 14 |     |                      |               |                           |     |
| MESSAGE<br>TIME<br>HR 1/10 | CAST<br>NO. | CARD<br>TYPE | DEPTH (m)           | T °C                 | S ‰            | SIGMA-T               | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> | Σ Δ D<br>DTN, M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - μl/l | TOTAL-P<br>μg - μl/l | NO <sub>3</sub> -N<br>μg - μl/l | NO <sub>3</sub> -N<br>μg - μl/l | SiO <sub>4</sub> -Si<br>μg - μl/l | pH | CTD |                      |               |                           |     |
|                            |             | STD          | 0000                | 1501                 | 3579           | 2660                  | 0014486                                   | 0000                                  | 15084             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |
| 130                        |             | OBS          | 0000                | 1501                 | 35792          | 2660                  |   |                                       | 15084             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |
|                            |             | STD          | 0010                | 1508                 | 3593           | 2669                  | 0013656                                   | 0014                                  | 15090             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |
|                            |             | STD          | 0020                | 1513                 | 3602           | 2675                  | 0013136                                   | 0027                                  | 15094             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |
| 130                        |             | OBS          | 0022                | 1514                 | 36030          | 2675                  |   |                                       | 15095             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |
|                            |             | STD          | 0030                | 1514                 | 3603           | 2675                  | 0013121                                   | 0041                                  | 15096             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |
| 130                        |             | OBS          | 0045                | 1515                 | 36026          | 2675                  |   |                                       | 15099             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |
|                            |             | STD          | 0050                | 1515                 | 3603           | 2675                  | 0013220                                   | 0067                                  | 15099             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |
| 130                        |             | OBS          | 0070                | 1515                 | 36029          | 2675                  |   |                                       | 15103             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |
|                            |             | STD          | 0075                | 1515                 | 3603           | 2675                  | 0013283                                   | 0100                                  | 15104             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |
| 130                        |             | OBS          | 0092                | 1515                 | 36027          | 2675                  |   |                                       | 15106             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |
|                            |             | STD          | 0100                | 1515                 | 3603           | 2675                  | 0013379                                   | 0133                                  | 15108             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |
|                            |             | STD          | 0125                | 1516                 | 3603           | 2674                  | 0013474                                   | 0167                                  | 15112             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |
| 130                        |             | OBS          | 0140                | 1516                 | 36025          | 2674                  |   |                                       | 15114             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |
|                            |             | STD          | 0150                | 1516                 | 3603           | 2674                  | 0013569                                   | 0201                                  | 15116             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |
| 130                        |             | OBS          | T0188               | 1517                 | 36026          | 2674                  |   |                                       | 15123             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |
|                            |             | STD          | 0200                | 1517                 | 3603           | 2674                  | 0013738                                   | 0269                                  | 15125             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |
|                            |             | STD          | 0250                | 1516                 | 3602           | 2674                  | 0013893                                   | 0338                                  | 15133             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |
| 130                        |             | OBS          | 0280                | 1516                 | 36021          | 2674                  |   |                                       | 15137             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |
|                            |             | STD          | 0300                | 1509                 | 3601           | 2675                  | 0013986                                   | 0408                                  | 15138             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |
| 130                        |             | OBS          | 0385                | 1478                 | 35958          | 2678                  |   |                                       | 15142             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |
|                            |             | STD          | 0400                | 1435                 | 3589           | 2682                  | 0013581                                   | 0546                                  | 15130             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |
| 130                        |             | OBS          | 0474                | 1249                 | 35599          | 2698                  |   |                                       | 15077             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |
|                            |             | STD          | 0500                | 1202                 | 3553           | 2701                  | 0011809                                   | 0673                                  | 15064             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |
| 130                        |             | OBS          | T0575               | 1064                 | 35344          | 2713                  |   |                                       | 15026             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |
|                            |             | STD          | 0600                | 1004                 | 3529           | 2719                  | 0010187                                   | 0783                                  | 15008             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |
|                            |             | STD          | 0700                | 0800                 | 3512           | 2739                  | 0008262                                   | 0875                                  | 14946             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |
| 130                        |             | OBS          | 0771                | 0687                 | 35041          | 2749                  |   |                                       | 14913             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |
|                            |             | STD          | 0800                | 0658                 | 3504           | 2753                  | 0006880                                   | 0951                                  | 14906             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |
|                            |             | STD          | 0900                | 0568                 | 3503           | 2764                  | 0005828                                   | 1014                                  | 14887             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |
| 130                        |             | OBS          | T0975               | 0513                 | 35019          | 2770                  |   |                                       | 14877             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |
|                            |             | STD          | 1000                | 0508                 | 3502           | 2770                  | 0005238                                   | 1069                                  | 14879             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |
|                            |             | STD          | 1100                | 0486                 | 3500           | 2772                  | 0005151                                   | 1121                                  | 14886             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |
|                            |             | STD          | 1200                | 0464                 | 3499           | 2773                  | 0005049                                   | 1172                                  | 14894             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |
|                            |             | STD          | 1300                | 0442                 | 3498           | 2775                  | 0004952                                   | 1222                                  | 14901             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |
|                            |             | STD          | 1400                | 0420                 | 3497           | 2776                  | 0004848                                   | 1271                                  | 14909             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |
| 130                        |             | OBS          | T1492               | 0400                 | 34958          | 2777                  |   |                                       | 14916             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |     |

| REFERENCE                  |             | SHIP<br>CODE | LATITUDE<br>° ' 10" | LONGITUDE<br>° ' 10" | WAVE<br>SQUARE | STATION TIME<br>(GMT) |   |                                       |                   | YEAR                | ORIGINATOR'S                    |                      | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLE   | WAVE<br>OBSERVATIONS              |    |     | WEA-<br>THER<br>CODE | CLOUD<br>CODE | NODC<br>STATION<br>NUMBER |
|----------------------------|-------------|--------------|---------------------|----------------------|----------------|-----------------------|---|---------------------------------------|-------------------|---------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|----|-----|----------------------|---------------|---------------------------|
| CTD<br>CODE                | ID.<br>NO.  |              |                     |                      |                | 10"                   | 1"  | MO                                    | DAY               |                     | HR                              | CRUISE<br>NO.        |                                 |                                 | STATION<br>NUMBER                 | OR | HGT |                      |               |                           |
| 311210                     | CS          | 4358 N       | 04103 W             | 149 31               | 02             | 29                    | 127                                       | 1968                                  | 015               | 002                 | 4170                            | 15                   | 32                              | 1                               | 3                                 |    | X1  | 3                    | 7             | 0002                      |
|                            |             |              |                     |                      |                |                       |   |                                       |                   |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |
|                            |             |              |                     | WATER                |                | WIND                  |   | BARO-<br>METER                        |                   | AIR TEMP. °C        |                                 | VIL<br>CODE          | NO.<br>OBS.<br>DEPTHS           | SPECIAL<br>OBSERVATIONS         |                                   |    |     |                      |               |                           |
|                            |             |              |                     | COLOR<br>CODE        | TRANS<br>m     | DIR.                  | SPEED<br>OF<br>FORCE                      | mbal                                  | mbal              | DRY<br>BULB         | WET<br>BULB                     |                      |                                 |                                 |                                   |    |     |                      |               |                           |
|                            |             |              |                     |                      |                |                       |   | 271                                   | 092               | 062                 | 7                               | 14                   |                                 |                                 |                                   |    |     |                      |               |                           |
| MESSAGE<br>TIME<br>HR 1/10 | CAST<br>NO. | CARD<br>TYPE | DEPTH (m)           | T °C                 | S ‰            | SIGMA-T               | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> | Σ Δ D<br>DTN, M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - μl/l | TOTAL-P<br>μg - μl/l | NO <sub>3</sub> -N<br>μg - μl/l | NO <sub>3</sub> -N<br>μg - μl/l | SiO <sub>4</sub> -Si<br>μg - μl/l | pH | CTD |                      |               |                           |
|                            |             | STD          | 0000                | 1500                 | 3601           | 2677                  | 0012851                                   | 0000                                  | 15086             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |
| 127                        |             | OBS          | 0000                | 1500                 | 36013          | 2677                  |   |                                       | 15086             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |
|                            |             | STD          | 0010                | 1505                 | 3602           | 2676                  | 0012936                                   | 0013                                  | 15090             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |
|                            |             | STD          | 0020                | 1508                 | 3603           | 2677                  | 0012957                                   | 0026                                  | 15092             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |
| 127                        |             | OBS          | 0025                | 1509                 | 36033          | 2677                  |   |                                       | 15094             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |
|                            |             | STD          | 0030                | 1509                 | 3603           | 2676                  | 0013009                                   | 0039                                  | 15094             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |
|                            |             | STD          | 0050                | 1509                 | 3603           | 2676                  | 0013078                                   | 0065                                  | 15098             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |
| 127                        |             | OBS          | 0050                | 1509                 | 36029          | 2676                  |   |                                       | 15098             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |
|                            |             | STD          | 0075                | 1511                 | 3603           | 2676                  | 0013205                                   | 0098                                  | 15102             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |
| 127                        |             | OBS          | 0075                | 1511                 | 36028          | 2676                  |   |                                       | 15102             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |
|                            |             | STD          | 0100                | 1511                 | 3603           | 2676                  | 0013275                                   | 0131                                  | 15106             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |
| 127                        |             | OBS          | 0100                | 1511                 | 36029          | 2676                  |   |                                       | 15106             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |
|                            |             | STD          | 0125                | 1513                 | 3603           | 2675                  | 0013402                                   | 0164                                  | 15111             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |
|                            |             | STD          | 0150                | 1514                 | 3603           | 2675                  | 0013508                                   | 0198                                  | 15116             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |
| 127                        |             | OBS          | 0150                | 1514                 | 36027          | 2675                  |   |                                       | 15116             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |
|                            |             | OBS          | T0198               | 1514                 | 36027          | 2675                  |   |                                       | 15123             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |
|                            |             | STD          | 0200                | 1514                 | 3603           | 2675                  | 0013662                                   | 0266                                  | 15124             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |
|                            |             | STD          | 0250                | 1515                 | 3603           | 2675                  | 0013811                                   | 0334                                  | 15132             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |
|                            |             | STD          | 0300                | 1515                 | 3603           | 2675                  | 0013967                                   | 0404                                  | 15140             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |
| 127                        |             | OBS          | 0300                | 1515                 | 36030          | 2675                  |   |                                       | 15140             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |
|                            |             | STD          | 0400                | 1357                 | 3574           | 2687                  | 0013063                                   | 0539                                  | 15102             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |
| 127                        |             | OBS          | T0402               | 1354                 | 35737          | 2687                  |   |                                       | 15102             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |
|                            |             | STD          | 0500                | 1196                 | 3552           | 2702                  | 0011767                                   | 0663                                  | 15062             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |
| 127                        |             | OBS          | 0500                | 1196                 | 35520          | 2702                  |   |                                       | 15062             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |
|                            |             | STD          | 0600                | 0943                 | 3520           | 2722                  | 0009803                                   | 0771                                  | 14984             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |
| 127                        |             | OBS          | T0600               | 0943                 | 35200          | 2722                  |   |                                       | 14984             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |
|                            |             | STD          | 0700                | 0762                 | 3507           | 2741                  | 0008043                                   | 0860                                  | 14931             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |
| 127                        |             | OBS          | 0799                | 0628                 | 34995          | 2753                  |   |                                       | 14894             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |
|                            |             | STD          | 0800                | 0627                 | 3500           | 2753                  | 0006770                                   | 0934                                  | 14893             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |
|                            |             | STD          | 0900                | 0557                 | 3500           | 2762                  | 0005936                                   | 0998                                  | 14882             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |
|                            |             | STD          | 1000                | 0499                 | 3500           | 2769                  | 0005273                                   | 1054                                  | 14875             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |
| 127                        |             | OBS          | T1012               | 0493                 | 34996          | 2770                  |   |                                       | 14875             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |
|                            |             | STD          | 1100                | 0476                 | 3499           | 2772                  | 0005129                                   | 1106                                  | 14882             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |
|                            |             | STD          | 1200                | 0457                 | 3499           | 2774                  | 0004985                                   | 1156                                  | 14891             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |
|                            |             | STD          | 1300                | 0438                 | 3498           | 2775                  | 0004910                                   | 1206                                  | 14900             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |
|                            |             | STD          | 1400                | 0419                 | 3497           | 2776                  | 0004830                                   | 1255                                  | 14909             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |
|                            |             | STD          | 1500                | 0400                 | 3496           | 2778                  | 0004743                                   | 1303                                  | 14917             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |
| 127                        |             | OBS          | T1517               | 0397                 | 34960          | 2778                  |   |                                       | 14919             |                     |                                 |                      |                                 |                                 |                                   |    |     |                      |               |                           |



TABLE VI.—Continued

| REFERENCE<br>CITY<br>CODE  | SHIP<br>ID.<br>NO. | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | DEPT.<br>NO. | MARSDEN<br>SQUARE | STATION TIME                              |                                     |                      | YEAR                | ORIGINATOR'S                    |                      | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLE   | WAVE<br>OBSERVATIONS              |     |                         | WEA-<br>THER<br>CODE | CLOUD<br>CODES |      | NODC<br>STATION<br>NUMBER |      |
|----------------------------|--------------------|--------------|--------------------|---------------------|--------------|-------------------|---|-------------------------------------|----------------------|---------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|-----|-------------------------|----------------------|----------------|------|---------------------------|------|
|                            |                    |              |                    |                     |              |                   | 10'                                       | 1"                                  | MO DAY HR.1/10       |                     | CRUISE<br>NO.                   | STATION<br>NUMBER    |                                 |                                 | DIR.                              | NGT | PER                     |                      | SEA            | TYPE |                           | AMT  |
|                            |                    |              |                    |                     |              |                   | 10'                                       | 1"                                  | MO DAY HR.1/10       |                     | CRUISE<br>NO.                   | STATION<br>NUMBER    |                                 |                                 | DIR.                              | NGT | PER                     |                      | SEA            | TYPE |                           | AMT  |
| 311210                     |                    | CS           | 44035N             | 041018W             |              | 149               | 41  | 03                                  | 02                   | 129                 | 1966                            | 015 003              |                                 | 4645                            | 11                                | 14  | 4                       | 3                    | X6             | 6    | 6                         | 0003 |
|                            |                    |              |                    |                     |              | WATER             |   | WIND                                |                      | BARO-<br>METER      |                                 | AIR TEMP. °C         |                                 | VIS.<br>CODE                    | NO. OF<br>OBS.<br>DEPTHS          |     | SPECIAL<br>OBSERVATIONS |                      |                |      |                           |      |
|                            |                    |              |                    |                     |              | COLOR<br>CODE     | TRANS.<br>MUT.                            | DIR.                                | SPEED<br>OR<br>FORCE | UNIT                | DIR<br>RULE                     | WET<br>RULE          |                                 |                                 |                                   |     |                         |                      |                |      |                           |      |
|                            |                    |              |                    |                     |              | 13                | 529                                       |                                     | 173                  |                     | 146                             | 143                  | 6                               | 14                              |                                   |     |                         |                      |                |      |                           |      |
| MESSAGE<br>TIME<br>HR 1/10 | CASST<br>NO.       | CARD<br>TYPE | DEPTH (m)          | T °C                | S ‰          | SIGMA-T           | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> | Δ D<br>DYN. M.<br>± 10 <sup>3</sup> | SOUND<br>VELOCITY    | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - μl/l | TOTAL-P<br>μg - μl/l | NO <sub>2</sub> -N<br>μg - μl/l | NO <sub>3</sub> -N<br>μg - μl/l | SiO <sub>4</sub> -Si<br>μg - μl/l | pH  | STATION<br>NUMBER       |                      |                |      |                           |      |
| 129                        |                    | STD          | 0000               | 1495                | 3599         | 2676              | 0012899                                   | 0000                                | 15085                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |      |
|                            |                    | D85          | 0000               | 1495                | 35992        | 2676              |   |                                     | 15085                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |      |
|                            |                    | STD          | 0010               | 1495                | 3600         | 2677              | 0012901                                   | 0013                                | 15086                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |      |
| 129                        |                    | D85          | 0018               | 1495                | 36000        | 2677              |   |                                     | 15088                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |      |
|                            |                    | STD          | 0020               | 1495                | 3600         | 2677              | 0012898                                   | 0026                                | 15088                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |      |
|                            |                    | STD          | 0030               | 1494                | 3600         | 2677              | 0012906                                   | 0039                                | 15089                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |      |
| 129                        |                    | D85          | 0037               | 1493                | 36000        | 2678              |   |                                     | 15090                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |      |
|                            |                    | STD          | 0050               | 1494                | 3600         | 2677              | 0012982                                   | 0065                                | 15093                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |      |
| 129                        |                    | D85          | 0055               | 1495                | 36000        | 2677              |   |                                     | 15094                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |      |
| 129                        |                    | D85          | 0074               | 1496                | 36001        | 2677              |   |                                     | 15097                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |      |
|                            |                    | STD          | 0075               | 1496                | 3600         | 2677              | 0013087                                   | 0097                                | 15097                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |      |
|                            |                    | STD          | 0100               | 1497                | 3600         | 2677              | 0013191                                   | 0130                                | 15102                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |      |
| 129                        |                    | D85          | 0110               | 1498                | 36001        | 2677              |   |                                     | 15104                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |      |
|                            |                    | STD          | 0125               | 1498                | 3600         | 2676              | 0013288                                   | 0163                                | 15106                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |      |
| 129                        |                    | D85          | T0148              | 1498                | 35998        | 2676              |   |                                     | 15110                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |      |
|                            |                    | STD          | 0150               | 1498                | 3600         | 2676              | 0013364                                   | 0196                                | 15110                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |      |
|                            |                    | STD          | 0200               | 1498                | 3600         | 2676              | 0013517                                   | 0264                                | 15118                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |      |
| 129                        |                    | D85          | 0221               | 1498                | 36002        | 2677              |   |                                     | 15122                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |      |
|                            |                    | STD          | 0250               | 1493                | 3599         | 2677              | 0013649                                   | 0332                                | 15125                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |      |
| 129                        |                    | D85          | T0297              | 1485                | 35965        | 2677              |   |                                     | 15130                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |      |
|                            |                    | STD          | 0300               | 1457                | 3590         | 2678              | 0013677                                   | 0400                                | 15120                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |      |
| 136                        |                    | D85          | 0303               | 1430                | 35848        | 2680              |   |                                     | 15112                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |      |
| 136                        |                    | D85          | T0370              | 1315                | 35670        | 2690              |   |                                     | 15083                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |      |
|                            |                    | STD          | 0400               | 1275                | 3561         | 2693              | 0012376                                   | 0530                                | 15074                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |      |
|                            |                    | STD          | 0500               | 1129                | 3543         | 2708              | 0011172                                   | 0648                                | 15038                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |      |
| 136                        |                    | D85          | 0519               | 1099                | 35392        | 2710              |   |                                     | 15030                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |      |
|                            |                    | STD          | 0600               | 0945                | 3523         | 2724              | 0009617                                   | 0752                                | 14985                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |      |
| 136                        |                    | D85          | T0669              | 0832                | 35123        | 2734              |   |                                     | 14953                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |      |
|                            |                    | STD          | 0700               | 0786                | 3512         | 2741              | 0008081                                   | 0840                                | 14941                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |      |
|                            |                    | STD          | 0800               | 0661                | 3509         | 2756              | 0006556                                   | 0913                                | 14908                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |      |
|                            |                    | STD          | 0900               | 0569                | 3507         | 2766              | 0005585                                   | 0974                                | 14888                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |      |
|                            |                    | STD          | 1000               | 0511                | 3504         | 2771              | 0005115                                   | 1028                                | 14881                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |      |
|                            |                    | STD          | 1100               | 0466                | 3501         | 2772              | 0005081                                   | 1079                                | 14887                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |      |
| 136                        |                    | D85          | T1100              | 0466                | 35014        | 2772              |   |                                     | 14887                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |      |

| REFERENCE<br>CITY<br>CODE  | SHIP<br>ID.<br>NO. | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | DEPT.<br>NO. | MARSDEN<br>SQUARE | STATION TIME<br>(GMT)                     |                                     |                      | YEAR                | ORIGINATOR'S                    |                      | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLE   | WAVE<br>OBSERVATIONS              |     |                         | WEA-<br>THER<br>CODE | CLOUD<br>CODES |      | NODC<br>STATION<br>NUMBER |     |
|----------------------------|--------------------|--------------|--------------------|---------------------|--------------|-------------------|---|-------------------------------------|----------------------|---------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|-----|-------------------------|----------------------|----------------|------|---------------------------|-----|
|                            |                    |              |                    |                     |              |                   | 10'                                       | 1"                                  | MO DAY HR.1/10       |                     | CRUISE<br>NO.                   | STATION<br>NUMBER    |                                 |                                 | DIR.                              | NGT | PER                     |                      | SEA            | TYPE |                           | AMT |
|                            |                    |              |                    |                     |              |                   | 10'                                       | 1"                                  | MO DAY HR.1/10       |                     | CRUISE<br>NO.                   | STATION<br>NUMBER    |                                 |                                 | DIR.                              | NGT | PER                     |                      | SEA            | TYPE |                           | AMT |
| 311210                     |                    | CS           | 4403 N             | 04058 W             |              | 149               | 40  | 03 03                               | 128                  | 1968                | 015 004                         |                      | 4645                            | 14                              | 15                                | 2   | 3                       | X1                   | 6              | 7    | 0004                      |     |
|                            |                    |              |                    |                     |              | WATER             |   | WIND                                |                      | BARO-<br>METER      |                                 | AIR TEMP. °C         |                                 | VIS.<br>CODE                    | NO. OF<br>OBS.<br>DEPTHS          |     | SPECIAL<br>OBSERVATIONS |                      |                |      |                           |     |
|                            |                    |              |                    |                     |              | COLOR<br>CODE     | TRANS.<br>MUT.                            | DIR.                                | SPEED<br>OR<br>FORCE | UNIT                | DIR<br>RULE                     | WET<br>RULE          |                                 |                                 |                                   |     |                         |                      |                |      |                           |     |
|                            |                    |              |                    |                     |              | 18                | 516                                       |                                     | 091                  |                     | 156                             | 150                  | 7                               | 11                              |                                   |     |                         |                      |                |      |                           |     |
| MESSAGE<br>TIME<br>HR 1/10 | CASST<br>NO.       | CARD<br>TYPE | DEPTH (m)          | T °C                | S ‰          | SIGMA-T           | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> | Δ D<br>DYN. M.<br>± 10 <sup>3</sup> | SOUND<br>VELOCITY    | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - μl/l | TOTAL-P<br>μg - μl/l | NO <sub>2</sub> -N<br>μg - μl/l | NO <sub>3</sub> -N<br>μg - μl/l | SiO <sub>4</sub> -Si<br>μg - μl/l | pH  | STATION<br>NUMBER       |                      |                |      |                           |     |
|                            |                    | STD          | 0000               | 1496                | 3599         | 2676              | 0012964                                   | 0000                                | 15085                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |     |
| 128                        |                    | D85          | 0000               | 1496                | 35986        | 2676              |   |                                     | 15085                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |     |
|                            |                    | STD          | 0010               | 1495                | 3599         | 2676              | 0012947                                   | 0013                                | 15086                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |     |
|                            |                    | STD          | 0020               | 1494                | 3599         | 2677              | 0012958                                   | 0026                                | 15088                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |     |
| 128                        |                    | D85          | 0022               | 1494                | 35995        | 2677              |   |                                     | 15088                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |     |
|                            |                    | STD          | 0030               | 1496                | 3600         | 2676              | 0012990                                   | 0039                                | 15070                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |     |
| 128                        |                    | D85          | 0044               | 1498                | 35996        | 2676              |   |                                     | 15093                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |     |
|                            |                    | STD          | 0050               | 1497                | 3600         | 2676              | 0013060                                   | 0065                                | 15093                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |     |
| 128                        |                    | D85          | 0068               | 1495                | 35995        | 2677              |   |                                     | 15096                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |     |
|                            |                    | STD          | 0075               | 1495                | 3600         | 2677              | 0013093                                   | 0098                                | 15097                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |     |
| 128                        |                    | D85          | 0090               | 1495                | 36000        | 2677              |   |                                     | 15099                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |     |
|                            |                    | STD          | 0100               | 1495                | 3600         | 2677              | 0013156                                   | 0130                                | 15101                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |     |
|                            |                    | STD          | 0125               | 1497                | 3600         | 2677              | 0013249                                   | 0163                                | 15106                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |     |
| 128                        |                    | D85          | 0137               | 1497                | 36001        | 2677              |   |                                     | 15108                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |     |
|                            |                    | STD          | 0150               | 1497                | 3600         | 2677              | 0013349                                   | 0197                                | 15110                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |     |
| 128                        |                    | D85          | T0182              | 1498                | 35997        | 2676              |   |                                     | 15115                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |     |
|                            |                    | STD          | 0200               | 1486                | 3597         | 2677              | 0013481                                   | 0264                                | 15114                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |     |
|                            |                    | STD          | 0250               | 1447                | 3589         | 2679              | 0013393                                   | 0331                                | 15109                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |     |
|                            |                    | STD          | 0300               | 1401                | 3580         | 2682              | 0013241                                   | 0398                                | 15101                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |     |
|                            |                    | STD          | 0400               | 1285                | 3562         | 2692              | 0012499                                   | 0526                                | 15077                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |     |
|                            |                    | STD          | 0500               | 1137                | 3543         | 2706              | 0011319                                   | 0645                                | 15040                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |     |
| 128                        |                    | D85          | T0537              | 1075                | 35359        | 2712              |   |                                     | 15024                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |     |
|                            |                    | STD          | 0600               | 0929                | 3519         | 2724              | 0009642                                   | 0750                                | 14979                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |     |
|                            |                    | STD          | 0700               | 0741                | 3501         | 2739              | 0008166                                   | 0839                                | 14922                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |     |
| 128                        |                    | D85          | 0711               | 0724                | 34998        | 2740              |   |                                     | 14917                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |     |
|                            |                    | STD          | 0800               | 0621                | 3498         | 2753              | 0006796                                   | 0914                                | 14891                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |     |
| 128                        |                    | D85          | T0890              | 0537                | 34962        | 2762              |   |                                     | 14872                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |     |
|                            |                    | STD          | 0900               | 0534                | 3496         | 2763              | 0005875                                   | 0977                                | 14872                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |     |
|                            |                    | STD          | 1000               | 0508                | 3496         | 2766              | 0005639                                   | 1035                                | 14878                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |     |
|                            |                    | STD          | 1100               | 0481                | 3496         | 2769              | 0005400                                   | 1090                                | 14884                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |     |
|                            |                    | STD          | 1200               | 0455                | 3496         | 2772              | 0005148                                   | 1143                                | 14890                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |     |
|                            |                    | STD          | 1300               | 0428                | 3496         | 2775              | 0004899                                   | 1193                                | 14895                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |     |
| 128                        |                    | D85          | T1360              | 0412                | 34963        | 2777              |   |                                     | 14899                |                     |                                 |                      |                                 |                                 |                                   |     |                         |                      |                |      |                           |     |



TABLE VI.—Continued

| REFERENCE                   |             | SHIP         | LATITUDE  | LONGITUDE | WAVE<br>DIRECTION | HARDEN<br>SQUARE |                                   | STATION TIME<br>(GMT) |                                       | YEAR                      | ORIGINATOR'S        |                                 | DEPTH                | MAX.                            | WAVE                            |                                   |     | WEA- | CLOUD             | NODC<br>STATION<br>NUMBER |      |     |  |
|-----------------------------|-------------|--------------|-----------|-----------|-------------------|------------------|-----------------------------------|-----------------------|---------------------------------------|---------------------------|---------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|-----|------|-------------------|---------------------------|------|-----|--|
| CTRY<br>CODE                | ID.<br>NO.  | CODE         | ° 1/10    | ° 1/10    |                   | 10'              | 1'                                | MO                    | DAY                                   | HR.1/10                   | CRUISE<br>NO.       | STATION<br>NUMBER               | TO<br>BOTTOM         | DEPTH<br>OF<br>SAMPLE           | DIR.                            | HGT                               | PER | SEA  | TH-<br>ER<br>CODE |                           | TYPE | AMT |  |
| 311210                      | CS          | 4359         | N         | 04103     | W                 | 149              | 31                                | 03                    | 04                                    | 128                       | 1968                | 015 005                         | 4579                 | 13                              | 25                              | 3                                 | 3   | X1   | 8                 | 3                         | 0005 |     |  |
|                             |             |              |           |           |                   |                  |                                   |                       |                                       |                           |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |  |
|                             |             |              |           |           |                   | WATER            |                                   | WIND                  |                                       | AIR TEMP. °C              |                     | VIL<br>CODE                     | NO.<br>OBS.<br>DEPTH | SPECIAL<br>OBSERVATIONS         |                                 |                                   |     |      |                   |                           |      |     |  |
|                             |             |              |           |           |                   | COLOR<br>CODE    | TRANS<br>(m)                      | DIR.                  | SPEED<br>OF<br>FORCE                  | BARO-<br>METER<br>(mbars) | DRY<br>BULB         |                                 |                      |                                 |                                 | WET<br>BULB                       |     |      |                   |                           |      |     |  |
|                             |             |              |           |           |                   |                  |                                   |                       |                                       |                           |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |  |
|                             |             |              |           |           |                   |                  |                                   |                       |                                       |                           |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |  |
| MISSING<br>TIME<br>HR. 1/10 | CAST<br>NO. | CARD<br>TYPE | DEPTH (m) | T °C      | S ‰               | SIGMA-T          | SPECIFIC VOLUME<br>AND MALT-WATER |                       | Σ Δ σ<br>DEN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY         | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l | NO <sub>2</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH  |      |                   |                           |      |     |  |
|                             |             | STO          | 0000      | 1501      | 3601              | 2676             | 0012923                           |                       | 0000                                  | 15087                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |  |
|                             |             | OBS          | 0000      | 1501      | 36006             | 2676             |                                   |                       |                                       | 15087                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |  |
| 128                         |             | STO          | 0010      | 1501      | 3601              | 2676             | 0012936                           |                       | 0013                                  | 15088                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |  |
|                             |             | OBS          | 0018      | 1500      | 36008             | 2677             |                                   |                       |                                       | 15089                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |  |
| 128                         |             | STO          | 0020      | 1501      | 3601              | 2676             | 0012970                           |                       | 0026                                  | 15090                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |  |
|                             |             | STO          | 0030      | 1503      | 3601              | 2676             | 0013043                           |                       | 0039                                  | 15092                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |  |
| 128                         |             | OBS          | 0037      | 1504      | 36008             | 2676             |                                   |                       |                                       | 15094                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |  |
|                             |             | STO          | 0050      | 1501      | 3601              | 2677             | 0013048                           |                       | 0065                                  | 15095                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |  |
| 128                         |             | OBS          | 0057      | 1500      | 36011             | 2677             |                                   |                       |                                       | 15096                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |  |
|                             |             | STO          | 0075      | 1501      | 3601              | 2676             | 0013139                           |                       | 0098                                  | 15099                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |  |
| 128                         |             | OBS          | 0075      | 1501      | 36008             | 2676             |                                   |                       |                                       | 15099                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |  |
|                             |             | STO          | 0100      | 1502      | 3600              | 2676             | 0013300                           |                       | 0131                                  | 15103                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |  |
| 128                         |             | OBS          | 0116      | 1503      | 35997             | 2675             |                                   |                       |                                       | 15106                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |  |
|                             |             | STO          | 0125      | 1503      | 3600              | 2675             | 0013397                           |                       | 0164                                  | 15108                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |  |
|                             |             | STO          | 0150      | 1502      | 3600              | 2676             | 0013431                           |                       | 0198                                  | 15112                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |  |
| 128                         |             | OBS          | T0159     | 1502      | 36005             | 2676             |                                   |                       |                                       | 15113                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |  |
|                             |             | STO          | 0200      | 1486      | 3598              | 2678             | 0013408                           |                       | 0265                                  | 15114                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |  |
| 128                         |             | OBS          | 0235      | 1474      | 35958             | 2678             |                                   |                       |                                       | 15116                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |  |
|                             |             | STO          | 0250      | 1472      | 3595              | 2679             | 0013459                           |                       | 0332                                  | 15118                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |  |
|                             |             | STO          | 0300      | 1460      | 3594              | 2680             | 0013464                           |                       | 0399                                  | 15122                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |  |
| 128                         |             | OBS          | T0319     | 1452      | 35932             | 2681             |                                   |                       |                                       | 15119                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |  |
| 128                         |             | OBS          | 0392      | 1407      | 35832             | 2683             |                                   |                       |                                       | 15119                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |  |
|                             |             | STO          | 0400      | 1395      | 3581              | 2684             | 0013331                           |                       | 0533                                  | 15116                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |  |
| 128                         |             | OBS          | 0472      | 1274      | 35641             | 2696             |                                   |                       |                                       | 15085                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |  |
|                             |             | STO          | 0500      | 1202      | 3554              | 2702             | 0011736                           |                       | 0659                                  | 15064                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |  |
|                             |             | STO          | 0600      | 0973      | 3525              | 2721             | 0009945                           |                       | 0767                                  | 14996                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |  |
| 128                         |             | OBS          | 0638      | 0897      | 35163             | 2727             |                                   |                       |                                       | 14973                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |  |
|                             |             | STO          | 0700      | 0789      | 3509              | 2738             | 0008311                           |                       | 0858                                  | 14941                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |  |
|                             |             | STO          | 0800      | 0643      | 3500              | 2752             | 0006960                           |                       | 0935                                  | 14900                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |  |
| 128                         |             | OBS          | 0813      | 0627      | 34995             | 2753             |                                   |                       |                                       | 14896                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |  |
|                             |             | STO          | 0900      | 0591      | 3500              | 2758             | 0006402                           |                       | 1001                                  | 14896                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |  |
|                             |             | STO          | 1000      | 0550      | 3500              | 2763             | 0005959                           |                       | 1063                                  | 14896                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |  |
|                             |             | STO          | 1100      | 0508      | 3500              | 2768             | 0005515                           |                       | 1121                                  | 14895                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |  |
|                             |             | STO          | 1200      | 0467      | 3500              | 2773             | 0005070                           |                       | 1173                                  | 14895                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |  |
| 128                         |             | OBS          | T1264     | 0440      | 34995             | 2776             |                                   |                       |                                       | 14895                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |  |

| REFERENCE                   |             | SHIP         | LATITUDE  | LONGITUDE | WAVE<br>DIRECTION | HARDEN<br>SQUARE |                                   | STATION TIME<br>(GMT) |                                       | YEAR                      | ORIGINATOR'S        |                                 | DEPTH                | MAX.                            | WAVE                            |                                   |     | WEA- | CLOUD             | NODC<br>STATION<br>NUMBER |      |     |
|-----------------------------|-------------|--------------|-----------|-----------|-------------------|------------------|-----------------------------------|-----------------------|---------------------------------------|---------------------------|---------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|-----|------|-------------------|---------------------------|------|-----|
| CTRY<br>CODE                | ID.<br>NO.  | CODE         | ° 1/10    | ° 1/10    |                   | 10'              | 1'                                | MO                    | DAY                                   | HR.1/10                   | CRUISE<br>NO.       | STATION<br>NUMBER               | TO<br>BOTTOM         | DEPTH<br>OF<br>SAMPLE           | DIR.                            | HGT                               | PER | SEA  | TH-<br>ER<br>CODE |                           | TYPE | AMT |
| 311210                      | CS          | 4400         | N         | 04100     | W                 | 149              | 41                                | 03                    | 06                                    | 126                       | 1968                | 015 006                         | 4587                 | 43                              | 17                              | 3                                 | 3   | X1   | 9                 | 3                         | 0006 |     |
|                             |             |              |           |           |                   |                  |                                   |                       |                                       |                           |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
|                             |             |              |           |           |                   | WATER            |                                   | WIND                  |                                       | AIR TEMP. °C              |                     | VIL<br>CODE                     | NO.<br>OBS.<br>DEPTH | SPECIAL<br>OBSERVATIONS         |                                 |                                   |     |      |                   |                           |      |     |
|                             |             |              |           |           |                   | COLOR<br>CODE    | TRANS<br>(m)                      | DIR.                  | SPEED<br>OF<br>FORCE                  | BARO-<br>METER<br>(mbars) | DRY<br>BULB         |                                 |                      |                                 |                                 | WET<br>BULB                       |     |      |                   |                           |      |     |
|                             |             |              |           |           |                   |                  |                                   |                       |                                       |                           |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
|                             |             |              |           |           |                   |                  |                                   |                       |                                       |                           |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
| MISSING<br>TIME<br>HR. 1/10 | CAST<br>NO. | CARD<br>TYPE | DEPTH (m) | T °C      | S ‰               | SIGMA-T          | SPECIFIC VOLUME<br>AND MALT-WATER |                       | Σ Δ σ<br>DEN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY         | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l | NO <sub>2</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH  |      |                   |                           |      |     |
|                             |             | STO          | 0000      | 1491      | 3595              | 2674             | 0013100                           |                       | 0000                                  | 15083                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
|                             |             | OBS          | 0000      | 1491      | 35953             | 2674             |                                   |                       |                                       | 15083                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
| 126                         |             | STO          | 0010      | 1491      | 3595              | 2674             | 0013139                           |                       | 0013                                  | 15085                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
|                             |             | STO          | 0020      | 1492      | 3595              | 2674             | 0013171                           |                       | 0026                                  | 15086                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
| 126                         |             | OBS          | 0024      | 1492      | 35954             | 2674             |                                   |                       |                                       | 15087                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
|                             |             | STO          | 0030      | 1493      | 3596              | 2674             | 0013219                           |                       | 0039                                  | 15088                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
| 126                         |             | OBS          | 0046      | 1495      | 35957             | 2674             |                                   |                       |                                       | 15092                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
|                             |             | STO          | 0050      | 1494      | 3596              | 2674             | 0013287                           |                       | 0066                                  | 15092                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
| 126                         |             | OBS          | 0070      | 1492      | 35954             | 2674             |                                   |                       |                                       | 15095                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
|                             |             | STO          | 0075      | 1492      | 3596              | 2675             | 0013300                           |                       | 0099                                  | 15095                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
| 126                         |             | OBS          | 0093      | 1491      | 35968             | 2676             |                                   |                       |                                       | 15098                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
|                             |             | STO          | 0100      | 1491      | 3597              | 2676             | 0013297                           |                       | 0132                                  | 15099                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
|                             |             | STO          | 0125      | 1491      | 3597              | 2675             | 0013388                           |                       | 0166                                  | 15103                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
| 126                         |             | OBS          | 0140      | 1490      | 35965             | 2676             |                                   |                       |                                       | 15106                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
|                             |             | STO          | 0150      | 1489      | 3596              | 2675             | 0013465                           |                       | 0199                                  | 15107                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
| 126                         |             | OBS          | T0186     | 1485      | 35954             | 2676             |                                   |                       |                                       | 15111                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
|                             |             | STO          | 0200      | 1485      | 3595              | 2675             | 0013605                           |                       | 0267                                  | 15114                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
|                             |             | STO          | 0250      | 1473      | 3593              | 2677             | 0013647                           |                       | 0335                                  | 15118                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
| 126                         |             | OBS          | 0285      | 1452      | 35898             | 2679             |                                   |                       |                                       | 15116                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
|                             |             | STO          | 0300      | 1438      | 3587              | 2680             | 0013498                           |                       | 0403                                  | 15114                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
| 126                         |             | OBS          | T0382     | 1343      | 35706             | 2687             |                                   |                       |                                       | 15094                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
|                             |             | STO          | 0400      | 1322      | 3568              | 2689             | 0012795                           |                       | 0535                                  | 15090                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
| 126                         |             | OBS          | 0480      | 1196      | 35510             | 2701             |                                   |                       |                                       | 15059                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
|                             |             | STO          | 0500      | 1148      | 3544              | 2705             | 0011450                           |                       | 0656                                  | 15044                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
| 126                         |             | OBS          | T0574     | 0985      | 35230             | 2718             |                                   |                       |                                       | 14996                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
|                             |             | STO          | 0600      | 0933      | 3519              | 2723             | 0009708                           |                       | 0762                                  | 14980                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
|                             |             | STO          | 0700      | 0758      | 3506              | 2740             | 0008055                           |                       | 0850                                  | 14929                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
| 126                         |             | OBS          | 0779      | 0650      | 34994             | 2750             |                                   |                       |                                       | 14899                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
|                             |             | STO          | 0800      | 0631      | 3499              | 2753             | 0006863                           |                       | 0925                                  | 14895                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
|                             |             | STO          | 0900      | 0549      | 3497              | 2761             | 0006012                           |                       | 0969                                  | 14878                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
| 126                         |             | OBS          | T0986     | 0491      | 34954             | 2767             |                                   |                       |                                       | 14869                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
| 126                         |             | OBS          | T1512     | 0398      | 34940             | 2776             |                                   |                       |                                       | 14918                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
|                             |             | STO          | 1750      | 0380      | 3494              | 2778             | 0004822                           |                       | 1423                                  | 14951                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
| 175                         |             | OBS          | T1828     | 0375      | 34943             | 2779             |                                   |                       |                                       | 14962                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
|                             |             | STO          | 2000      | 0368      | 3494              | 2780             | 0004848                           |                       | 1544                                  | 14988                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
| 175                         |             | OBS          | T2316     | 0352      | 34945             | 2781             |                                   |                       |                                       | 15035                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
|                             |             | STO          | 2500      | 0339      | 3494              | 2782             | 0004813                           |                       | 1785                                  | 15061                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
| 175                         |             | OBS          | 2803      | 0316      | 34942             | 2785             |                                   |                       |                                       | 15104                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
|                             |             | STO          | 3000      | 0300      | 3494              | 2786             | 0004592                           |                       | 2020                                  | 15131                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
| 175                         |             | OBS          | T3299     | 0278      | 34928             | 2787             |                                   |                       |                                       | 15174                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
| 175                         |             | OBS          | T3801     | 0244      | 34912             | 2789             |                                   |                       |                                       | 15247                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
|                             |             | STO          | 4000      | 0239      | 3491              | 2789             | 0004371                           |                       | 2468                                  | 15280                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
| 175                         |             | OBS          | 4303      | 0232      | 34901             | 2789             |                                   |                       |                                       | 15330                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |
| 175                         |             | OBS          | T4324     | 0228      | 34900             | 2789             |                                   |                       |                                       | 15332                     |                     |                                 |                      |                                 |                                 |                                   |     |      |                   |                           |      |     |



TABLE VI.—Continued

| REFERENCE    |      | SHIP<br>CODE | LATITUDE<br>°<br>1/10 | LONGITUDE<br>°<br>1/10 | BUOY<br>NO. | MARDEN<br>SQUARE | STATION TIME (GMT) |      |     | YEAR | ORIGINATOR'S |        | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>S'PL'S | WAVE<br>OBSERVATIONS |                   |      |     | WEA-<br>THER<br>CODE | CLOUD<br>CODE | NDDC<br>STATION<br>NUMBER |      |
|--------------|------|--------------|-----------------------|------------------------|-------------|------------------|--------------------|------|-----|------|--------------|--------|-----------------------|-------------------------------|----------------------|-------------------|------|-----|----------------------|---------------|---------------------------|------|
| CITY<br>CODE | NO.  |              |                       |                        |             |                  | 10"                | 1"   | MO  |      | DAY          | HR./10 |                       |                               | CRUISE<br>NO.        | STATION<br>NUMBER | DIR. | HGT |                      |               |                           | PER  |
| 31           | 1210 | CS           | 4406 N                | 04102 W                |             | 149 41           | 03 07 129          | 1568 | 015 | 007  |              | 4827   | 15                    | 12                            | 1                    | 3                 |      | X1  | 4                    | 5             |                           | 0007 |

| WATER         |               | WIND |                      | BARO-METER<br>(mba) | AIR TEMP. °C |             | VIB<br>CODE | NO.<br>OBS.<br>DEPTHS | SPECIAL<br>OBSERVATIONS |
|---------------|---------------|------|----------------------|---------------------|--------------|-------------|-------------|-----------------------|-------------------------|
| COLOR<br>CODE | TRANS.<br>(m) | DIR. | SPEED<br>OR<br>FORCE |                     | DRY<br>BULB  | WET<br>BULB |             |                       |                         |
|               |               | 12   | 510                  | 119                 | 144          | 133         | 7           | 14                    |                         |

| MESSING<br>HR 1/10 | CASIT<br>NO. | CARGO<br>TYPE | DEPTH (m) | T °C | S %   | SIGMA-T | SPECIFIC VOLUME<br>ANOMALY-31P | $\frac{\Delta D}{DTH, M.}$<br>x 10 <sup>2</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>µg = ml/l | TOTAL-P<br>µg = ml/l | NO <sub>3</sub> -N<br>µg = ml/l | NO <sub>3</sub> -N<br>µg = ml/l | Si O <sub>2</sub> -Si<br>µg = ml/l | pH | TEMP<br>°C |
|--------------------|--------------|---------------|-----------|------|-------|---------|--------------------------------|---|-------------------|---------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|------------------------------------|----|------------|
| 129                |              | STO           | 0000      | 1481 | 3594  | 2675    | 0012993                        | 0000  | 15079             |                     |                                 |                      |                                 |                                 |                                    |    |            |
|                    |              | 085           | 0000      | 1481 | 35939 | 2675    |                                |   | 15079             |                     |                                 |                      |                                 |                                 |                                    |    |            |
|                    |              | STO           | 0010      | 1480 | 3594  | 2676    | 0012990                        | 0013  | 15081             |                     |                                 |                      |                                 |                                 |                                    |    |            |
|                    |              | STO           | 0020      | 1478 | 3594  | 2676    | 0012993                        | 0026  | 15082             |                     |                                 |                      |                                 |                                 |                                    |    |            |
| 129                |              | 085           | 0023      | 1478 | 35942 | 2676    |                                |   | 15082             |                     |                                 |                      |                                 |                                 |                                    |    |            |
|                    |              | STO           | 0030      | 1479 | 3594  | 2676    | 0013028                        | 0039  | 15084             |                     |                                 |                      |                                 |                                 |                                    |    |            |
| 129                |              | 085           | 0046      | 1480 | 35936 | 2675    |                                |   | 15087             |                     |                                 |                      |                                 |                                 |                                    |    |            |
|                    |              | STO           | 0050      | 1479 | 3594  | 2676    | 0013097                        | 0065  | 15087             |                     |                                 |                      |                                 |                                 |                                    |    |            |
| 129                |              | 085           | 0068      | 1474 | 35945 | 2677    |                                |   | 15088             |                     |                                 |                      |                                 |                                 |                                    |    |            |
|                    |              | STO           | 0075      | 1469 | 3594  | 2678    | 0012964                        | 0098  | 15088             |                     |                                 |                      |                                 |                                 |                                    |    |            |
| 129                |              | 085           | 0092      | 1460 | 35928 | 2679    |                                |   | 15088             |                     |                                 |                      |                                 |                                 |                                    |    |            |
|                    |              | STO           | 0100      | 1459 | 3592  | 2679    | 0012948                        | 0130  | 15089             |                     |                                 |                      |                                 |                                 |                                    |    |            |
|                    |              | STO           | 0125      | 1454 | 3591  | 2679    | 0013007                        | 0163  | 15091             |                     |                                 |                      |                                 |                                 |                                    |    |            |
| 129                |              | 085           | 0136      | 1450 | 35906 | 2680    |                                |   | 15091             |                     |                                 |                      |                                 |                                 |                                    |    |            |
|                    |              | STO           | 0150      | 1442 | 3589  | 2680    | 0012993                        | 0195  | 15091             |                     |                                 |                      |                                 |                                 |                                    |    |            |
| 129                |              | 085           | T0181     | 1428 | 35866 | 2681    |                                |   | 15091             |                     |                                 |                      |                                 |                                 |                                    |    |            |
|                    |              | STO           | 0200      | 1424 | 3586  | 2682    | 0012987                        | 0260  | 15093             |                     |                                 |                      |                                 |                                 |                                    |    |            |
|                    |              | STO           | 0250      | 1412 | 3583  | 2682    | 0013105                        | 0325  | 15097             |                     |                                 |                      |                                 |                                 |                                    |    |            |
| 129                |              | 085           | 0271      | 1406 | 35820 | 2683    |                                |   | 15098             |                     |                                 |                      |                                 |                                 |                                    |    |            |
|                    |              | STO           | 0300      | 1401 | 3579  | 2681    | 0013321                        | 0391  | 15101             |                     |                                 |                      |                                 |                                 |                                    |    |            |
| 129                |              | 085           | T0356     | 1375 |       |         |                                |   |                   |                     |                                 |                      |                                 |                                 |                                    |    |            |
|                    |              | STO           | 0400      | 1350 | 3568  | 2683    | 0013358                        | 0525  | 15099             |                     |                                 |                      |                                 |                                 |                                    |    |            |
| 129                |              | 085           | 0448      | 1285 | 35628 | 2693    |                                |   | 15085             |                     |                                 |                      |                                 |                                 |                                    |    |            |
|                    |              | STO           | 0500      | 1148 | 3541  | 2702    | 0011669                        | 0650  | 15044             |                     |                                 |                      |                                 |                                 |                                    |    |            |
| 129                |              | 085           | T0538     | 1058 | 35287 | 2709    |                                |   | 15017             |                     |                                 |                      |                                 |                                 |                                    |    |            |
|                    |              | STO           | 0600      | 0934 | 3518  | 2722    | 0009798                        | 0757  | 14981             |                     |                                 |                      |                                 |                                 |                                    |    |            |
|                    |              | STO           | 0700      | 0766 | 3506  | 2739    | 0008177                        | 0847  | 14932             |                     |                                 |                      |                                 |                                 |                                    |    |            |
| 129                |              | 085           | 0720      | 0737 | 35047 | 2742    |                                |   | 14924             |                     |                                 |                      |                                 |                                 |                                    |    |            |
|                    |              | STO           | 0800      | 0645 | 3502  | 2753    | 0006812                        | 0922  | 14901             |                     |                                 |                      |                                 |                                 |                                    |    |            |
|                    |              | STO           | 0900      | 0549 | 3500  | 2763    | 0005828                        | 0985  | 14879             |                     |                                 |                      |                                 |                                 |                                    |    |            |
| 129                |              | 085           | T0903     | 0546 | 34994 | 2764    |                                |   | 14878             |                     |                                 |                      |                                 |                                 |                                    |    |            |
|                    |              | STO           | 1000      | 0522 | 3499  | 2766    | 0005630                        | 1042  | 14884             |                     |                                 |                      |                                 |                                 |                                    |    |            |
|                    |              | STO           | 1100      | 0497 | 3498  | 2769    | 0005452                        | 1098  | 14891             |                     |                                 |                      |                                 |                                 |                                    |    |            |

| REFERENCE  |            | SHIP<br>CODE | LATITUDE<br>°<br>1/10 | LONGITUDE<br>°<br>1/10 | HEIGHT<br>FOOT | MARS DEN<br>SQUARE |     | STATION TIME<br>(GMT) |     | YEAR | ORIGINATOR'S |      | DEPTH<br>TO<br>BOTTOM | WAVE<br>OBSERVATIONS |                   | WATER<br>TEMP<br>COOL | CLOUD<br>COVER |            | NODC<br>STATION<br>NUMBER |     |      |     |      |
|------------|------------|--------------|-----------------------|------------------------|----------------|--------------------|-----|-----------------------|-----|------|--------------|------|-----------------------|----------------------|-------------------|-----------------------|----------------|------------|---------------------------|-----|------|-----|------|
| CR<br>CODE | NO.<br>NO. |              |                       |                        |                | 10"                | 10" | MO                    | DAY |      | HR           | 1/10 |                       | CRUISE<br>NO.        | STATION<br>NUMBER |                       | DIR            | PER<br>SEC |                           | SEA | TYPE | AMT |      |
| 31         | 1210       | CS           | 4408 N                | 04059 W                |                | 149                | 40  | 03                    | 08  | 130  | 1968         | 015  | 008                   | 4827                 | 16                | 18                    | 2              | 3          | X1                        | 8   | 4    |     | 0008 |

| WATER         |               | WIND |                      | BARO-METER<br>(mb) | AIR TEMP. °C |             | VIS.<br>CODE | NO.<br>OBS.<br>DEPTH | SPECIAL<br>OBSERVATIONS |
|---------------|---------------|------|----------------------|--------------------|--------------|-------------|--------------|----------------------|-------------------------|
| COLOR<br>CODE | TRANS.<br>(m) | CUR. | SPEED<br>OR<br>FORCE |                    | DRY<br>BULB  | WET<br>BULB |              |                      |                         |
|               |               | 16   | 525                  | 149                | 158          | 154         | 7            | 13                   |                         |

| MISSING<br>TIME | CAS#<br>NO. | CARD<br>TYPE | DEPTH (m) | T °C | S %   | SIGMA-T | SPECIFIC VOLUME<br>AND $\Delta P$ - 1137 | Z AND<br>QTN, M.<br>X 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml | PO <sub>2</sub> -P<br>pg - ml/l | TOTAL-P<br>pg - ml/l | NO <sub>2</sub> -N<br>pg - ml/l | NO <sub>3</sub> -N<br>pg - ml/l | SiO <sub>4</sub> -S<br>pg - ml/l | pH | Si<br>C |
|-----------------|-------------|--------------|-----------|------|-------|---------|--|---------------------------------------|-------------------|-------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|----------------------------------|----|---------|
| HR 1/10         |             |              |           |      |       |         |  |                                       |                   |                   |                                 |                      |                                 |                                 |                                  |    |         |
| 130             |             | STD          | 0000      | 1501 | 3598  | 2674    | 0013098                                  | 0000                                  | 15086             |                   |                                 |                      |                                 |                                 |                                  |    |         |
|                 |             | DBS          | 0000      | 1501 | 35982 | 2674    |  |                                       | 15086             |                   |                                 |                      |                                 |                                 |                                  |    |         |
|                 |             | STD          | 0010      | 1501 | 3598  | 2674    | 0013123                                  | 0013                                  | 15088             |                   |                                 |                      |                                 |                                 |                                  |    |         |
| 130             |             | STD          | 0020      | 1502 | 3599  | 2675    | 0013140                                  | 0026                                  | 15090             |                   |                                 |                      |                                 |                                 |                                  |    |         |
|                 |             | DBS          | 0025      | 1502 | 35988 | 2675    |  |                                       | 15091             |                   |                                 |                      |                                 |                                 |                                  |    |         |
|                 |             | STD          | 0030      | 1501 | 3599  | 2675    | 0013147                                  | 0039                                  | 15091             |                   |                                 |                      |                                 |                                 |                                  |    |         |
| 130             |             | STD          | 0050      | 1496 | 3599  | 2676    | 0013096                                  | 0066                                  | 15093             |                   |                                 |                      |                                 |                                 |                                  |    |         |
|                 |             | DBS          | 0050      | 1496 | 35989 | 2676    |  |                                       | 15093             |                   |                                 |                      |                                 |                                 |                                  |    |         |
|                 |             | STD          | 0075      | 1494 | 3599  | 2676    | 0013168                                  | 0098                                  | 15097             |                   |                                 |                      |                                 |                                 |                                  |    |         |
| 130             |             | DBS          | 0096      |      | 35982 |         |  |                                       |                   |                   |                                 |                      |                                 |                                 |                                  |    |         |
|                 |             | STD          | 0100      | 1493 | 3598  | 2676    | 0013235                                  | 0131                                  | 15100             |                   |                                 |                      |                                 |                                 |                                  |    |         |
|                 |             | STD          | 0125      | 1491 | 3598  | 2677    | 0013277                                  | 0165                                  | 15104             |                   |                                 |                      |                                 |                                 |                                  |    |         |
| 130             |             | DBS          | 0146      | 1490 | 35982 | 2677    |  |                                       | 15107             |                   |                                 |                      |                                 |                                 |                                  |    |         |
|                 |             | STD          | 0150      | 1488 | 3598  | 2677    | 0013298                                  | 0198                                  | 15107             |                   |                                 |                      |                                 |                                 |                                  |    |         |
|                 |             | DBS          | T0190     | 1464 | 35937 | 2679    |  |                                       | 15105             |                   |                                 |                      |                                 |                                 |                                  |    |         |
| 130             |             | STD          | 0200      | 1460 | 3593  | 2679    | 0013225                                  | 0264                                  | 15105             |                   |                                 |                      |                                 |                                 |                                  |    |         |
|                 |             | STD          | 0250      | 1436 | 3588  | 2681    | 0013236                                  | 0330                                  | 15105             |                   |                                 |                      |                                 |                                 |                                  |    |         |
|                 |             | DBS          | 0287      | 1413 | 35836 | 2682    |  |                                       | 15103             |                   |                                 |                      |                                 |                                 |                                  |    |         |
| 130             |             | STD          | 0300      | 1406 | 3582  | 2683    | 0013198                                  | 0396                                  | 15103             |                   |                                 |                      |                                 |                                 |                                  |    |         |
|                 |             | DBS          | T0387     | 1329 | 35700 | 2689    |  |                                       | 15091             |                   |                                 |                      |                                 |                                 |                                  |    |         |
|                 |             | STD          | 0400      | 1313 | 3567  | 2690    | 0012688                                  | 0526                                  | 15087             |                   |                                 |                      |                                 |                                 |                                  |    |         |
| 130             |             | DBS          | 0489      | 1178 | 35476 | 2702    |  |                                       | 15053             |                   |                                 |                      |                                 |                                 |                                  |    |         |
|                 |             | STD          | 0500      | 1154 | 3545  | 2704    | 0011488                                  | 0647                                  | 15046             |                   |                                 |                      |                                 |                                 |                                  |    |         |
|                 |             | DBS          | T0587     | 0978 | 35227 | 2719    |  |                                       | 14995             |                   |                                 |                      |                                 |                                 |                                  |    |         |
| 130             |             | STD          | 0600      | 0952 | 3521  | 2722    | 0009881                                  | 0754                                  | 14988             |                   |                                 |                      |                                 |                                 |                                  |    |         |
|                 |             | STD          | 0700      | 0775 | 3508  | 2739    | 0008168                                  | 0844                                  | 14936             |                   |                                 |                      |                                 |                                 |                                  |    |         |
|                 |             | STD          | 0800      | 0638 | 3500  | 2752    | 0006896                                  | 0919                                  | 14898             |                   |                                 |                      |                                 |                                 |                                  |    |         |
| 130             |             | DBS          | 0800      | 0638 | 34995 | 2752    |  |                                       | 14898             |                   |                                 |                      |                                 |                                 |                                  |    |         |
|                 |             | STD          | 0900      | 0556 | 3498  | 2761    | 0006055                                  | 0984                                  | 14881             |                   |                                 |                      |                                 |                                 |                                  |    |         |
|                 |             | STD          | 1000      | 0488 | 3496  | 2767    | 0005430                                  | 1041                                  | 14870             |                   |                                 |                      |                                 |                                 |                                  |    |         |
| 130             |             | DBS          | T1012     | 0481 | 34952 | 2768    |  |                                       | 14869             |                   |                                 |                      |                                 |                                 |                                  |    |         |
|                 |             | STD          | 1100      | 0466 | 3495  | 2769    | 0005314                                  | 1095                                  | 14877             |                   |                                 |                      |                                 |                                 |                                  |    |         |
|                 |             | STD          | 1200      | 0448 | 3494  | 2771    | 0005243                                  | 1148                                  | 14887             |                   |                                 |                      |                                 |                                 |                                  |    |         |
| 130             |             | STD          | 1300      | 0431 | 3493  | 2772    | 0005166                                  | 1200                                  | 14896             |                   |                                 |                      |                                 |                                 |                                  |    |         |
|                 |             | STD          | 1400      | 0414 | 3493  | 2773    | 0005084                                  | 1251                                  | 14906             |                   |                                 |                      |                                 |                                 |                                  |    |         |
|                 |             | STD          | 1500      | 0396 | 3492  | 2775    | 0004999                                  | 1301                                  | 14915             |                   |                                 |                      |                                 |                                 |                                  |    |         |
| 130             |             | DBS          | T1588     | 0381 | 34912 | 2776    |  |                                       | 14924             |                   |                                 |                      |                                 |                                 |                                  |    |         |



TABLE VI.—Continued

| REFERENCE                   |             | SHIP<br>CODE | LATITUDE<br>1/10 | LONGITUDE<br>1/10 | 0.10" | MARS DEN<br>SQUARE |  | STATION TIME<br>(GMT) |   |               | YEAR              | ORIGINATOR'S        |                                 | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPLING | WAVE<br>OBSERVATIONS            |                                   |      | WEA-<br>THER<br>CODE | CLOUD<br>CODES |      | NODC<br>STATION<br>NUMBER |     |
|-----------------------------|-------------|--------------|------------------|-------------------|-------|--------------------|--|-----------------------|---|---------------|-------------------|---------------------|---------------------------------|-----------------------|---------------------------------|---------------------------------|-----------------------------------|------|----------------------|----------------|------|---------------------------|-----|
| CRF<br>CODE                 | ID.<br>NO.  |              |                  |                   |       | 10"                | 1"                                     | MO                    | DAY   | HR.1/10       |                   | CRUISE<br>NO.       | STATION<br>NUMBER               |                       |                                 | DIR.                            | HGT.                              | PER. |                      | SEA            | TYPE |                           | AMT |
| 311210                      |             | CS           | 4400 N           | 04100 W           |       | 149                | 41                                     | 03                    | 11  | 127           | 1968              | 015                 | 009                             | 4567                  | 15                              | 30                              | 2                                 | 3    | X2                   | 6              | 8    | 0009                      |     |
|                             |             |              |                  |                   |       |                    |  |                       |   |               |                   |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
|                             |             |              |                  |                   |       | WATER              |  | WIND                  |   | BARO-         |                   | AIR TEMP., °C       |                                 | NO.<br>OBS.<br>DEPTH  | SPECIAL<br>OBSERVATIONS         |                                 |                                   |      |                      |                |      |                           |     |
|                             |             |              |                  |                   |       | COLOR<br>CODE      | TRANS.<br>mm                           | DIR.                  | SPEC.<br>OR<br>FORCE                          | METER<br>mmHg | DRY<br>BULB       | WET<br>BULB         | VIL<br>CODE                     |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
|                             |             |              |                  |                   |       |                    |  | 30                    | 515   | 244           | 094               | 089                 | 7                               | 14                    |                                 |                                 |                                   |      |                      |                |      |                           |     |
| MESSAGE<br>TIME<br>HR. 1/10 | CAST<br>NO. | CARO<br>TYPE | DEPTH (m)        | T °C              | S ‰   | SIGMA-T            | SPECIFIC VOLUME<br>ANOMALY- $\sigma_t$ |                       | $\Sigma \Delta C$<br>DYN. M.<br>$\times 10^2$ |               | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>µg - ml/l | TOTAL-N<br>µg - ml/l  | NO <sub>2</sub> -N<br>µg - ml/l | NO <sub>3</sub> -N<br>µg - ml/l | SiO <sub>4</sub> -Si<br>µg - ml/l | pH   |                      |                |      |                           |     |
| 127                         |             | STS          | 0000             | 1513              | 3603  | 2675               | 0013015                                |                       | 0000  |               | 15091             |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
|                             |             | 08S          | 0000             | 1513              | 36028 | 2675               |  |                       |   |               | 15091             |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
|                             |             | STS          | 0010             | 1513              | 3603  | 2675               | 0013055                                |                       | 0013  |               | 15092             |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
| 127                         |             | STS          | 0020             | 1514              | 3603  | 2675               | 0013087                                |                       | 0026  |               | 15094             |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
|                             |             | 08S          | 0024             | 1514              | 36029 | 2675               |  |                       |   |               | 15095             |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
|                             |             | STS          | 0030             | 1515              | 3603  | 2675               | 0013151                                |                       | 0039  |               | 15096             |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
| 127                         |             | STS          | 0050             | 1517              | 3602  | 2674               | 0013284                                |                       | 0066  |               | 15100             |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
|                             |             | 08S          | 0050             | 1517              | 36024 | 2674               | 0013255                                |                       | 0099  |               | 15100             |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
|                             |             | STS          | 0075             | 1513              | 3603  | 2675               |  |                       |   |               | 15103             |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
| 127                         |             | 08S          | 0075             | 1513              | 36027 | 2675               |  |                       |   |               | 15103             |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
|                             |             | STS          | 0100             | 1515              | 3603  | 2675               | 0013373                                |                       | 0132  |               | 15108             |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
|                             |             | 08S          | 0101             | 1515              | 36027 | 2675               |  |                       |   |               | 15111             |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
| 127                         |             | STS          | 0125             | 1514              | 3603  | 2675               | 0013420                                |                       | 0166  |               | 15111             |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
|                             |             | STS          | 0150             | 1512              | 3603  | 2675               | 0013458                                |                       | 0199  |               | 15115             |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
|                             |             | 08S          | 0150             | 1512              | 36028 | 2675               |  |                       |   |               | 15115             |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
| 127                         |             | STS          | 0200             | 1445              | 3587  | 2678               | 0013349                                |                       | 0266  |               | 15100             |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
|                             |             | 08S          | T0202            | 1443              | 35869 | 2678               |  |                       |   |               | 15100             |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
|                             |             | STS          | 0250             | 1422              | 3583  | 2680               | 0013311                                |                       | 0333  |               | 15100             |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
| 127                         |             | STS          | 0300             | 1390              | 3579  | 2684               | 0013089                                |                       | 0399  |               | 15097             |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
|                             |             | 08S          | 0303             | 1388              | 35783 | 2683               |  |                       |   |               | 15097             |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
|                             |             | STS          | 0400             | 1302              | 3566  | 2692               | 0012543                                |                       | 0527  |               | 15083             |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
| 127                         |             | 08S          | T0406            | 1293              | 35648 | 2693               |  |                       |   |               | 15081             |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
|                             |             | STS          | 0500             | 1110              | 3540  | 2709               | 0011043                                |                       | 0645  |               | 15030             |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
|                             |             | 08S          | 0504             | 1102              | 35387 | 2709               |  |                       |   |               | 15028             |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
| 127                         |             | STS          | 0600             | 0900              | 3516  | 2726               | 0009382                                |                       | 0747  |               | 14968             |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
|                             |             | 08S          | T0605            | 0890              | 35152 | 2727               |  |                       |   |               | 14965             |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
|                             |             | STS          | 0700             | 0721              | 3505  | 2745               | 0007573                                |                       | 0832  |               | 14915             |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
| 127                         |             | STS          | 0800             | 0593              | 3498  | 2757               | 0006407                                |                       | 0902  |               | 14880             |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
|                             |             | 08S          | 0815             | 0578              | 34972 | 2758               |  |                       |   |               | 14876             |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
|                             |             | STS          | 0900             | 0539              | 3497  | 2763               | 0005855                                |                       | 0963  |               | 14874             |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
| 127                         |             | STS          | 1000             | 0499              | 3497  | 2768               | 0005435                                |                       | 1020  |               | 14875             |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
|                             |             | 08S          | T1026            | 0490              | 34974 | 2769               |  |                       |   |               | 14875             |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
|                             |             | STS          | 1100             | 0466              | 3497  | 2771               | 0005141                                |                       | 1072  |               | 14878             |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
| 127                         |             | STS          | 1200             | 0439              | 3497  | 2774               | 0004893                                |                       | 1123  |               | 14883             |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
|                             |             | STS          | 1300             | 0419              | 3496  | 2776               | 0004804                                |                       | 1171  |               | 14892             |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
|                             |             | STS          | 1400             | 0405              | 3495  | 2776               | 0004788                                |                       | 1219  |               | 14902             |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
| 127                         |             | STS          | 1500             | 0397              | 3494  | 2776               | 0004847                                |                       | 1267  |               | 14916             |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |
|                             |             | 08S          | T1532            | 0396              | 34934 | 2776               |  |                       |   |               | 14921             |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |      |                           |     |



TABLE VI.—Continued

| REFERENCE                   |              | SHIP<br>CODE | LATITUDE<br>1°/10    | LONGITUDE<br>1°/10     | STATION<br>NO. | MASSON<br>SQUARE | STATION TIME<br>(GMT)            | YEAR                       | ORIGINATOR'S      |                     | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPL'S | WAVE<br>OBSERVATIONS            |                                 |                                   |     | WEA-<br>THER<br>CODE | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |
|-----------------------------|--------------|--------------|----------------------|------------------------|----------------|------------------|----------------------------------|----------------------------|-------------------|---------------------|---------------------------------|--------------------------------|---------------------------------|---------------------------------|-----------------------------------|-----|----------------------|----------------|---------------------------|
| CRUISE<br>CODE              | ID.<br>NO.   |              |                      |                        |                |                  |                                  |                            | CRUISE<br>NO.     | STATION<br>NUMBER   |                                 |                                | DIR.                            | HGT                             | PER.                              | SEA |                      |                |                           |
| 311210                      | CS           |              | 4400 N               | 04100 W                | 149            | 41               | 03 12 127                        | 1968                       | 015               | 010                 | 4587                            | 39                             | 13                              | 1                               | 2                                 | X1  | 8 2                  |                | 0010                      |
|                             |              |              |                      |                        |                |                  |                                  |                            |                   |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
|                             |              |              |                      |                        |                |                  |                                  |                            |                   |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
| COLOR<br>CODE               | FRAME<br>(m) | DIR.         | SPEED<br>OF<br>FORCE | BARO-<br>METER<br>(mb) | DRY<br>BULB    | WET<br>BULB      | VIS.<br>CODE                     | NO.<br>OBS.<br>DEPTH       |                   |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
| 14                          | 510          | 250          | 117                  | 111                    | 7              | 20               |                                  |                            |                   |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
| MESSAGE<br>TIME<br>HR. 1/10 | CAST<br>NO.  | CARD<br>TYPE | DEPTH (m)            | T °C                   | S ‰            | SIGMA-T          | SPECIFIC VOLUME<br>AND WALT.—STP | Σ Δ O<br>DTN., M.<br>1°/10 | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>2</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l           | NO <sub>2</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>2</sub> -Si<br>μg - ml/l | RH  | S<br>ALC             |                |                           |
|                             |              | STO          | 0000                 | 1503                   | 3600           | 2676             | 0012979                          | 0000                       | 15087             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
| 127                         |              | OBS          | 0000                 | 1503                   | 36004          | 2676             |                                  |                            | 15087             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
|                             |              | STO          | 0010                 | 1502                   | 3600           | 2676             | 0012988                          | 0013                       | 15088             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
|                             |              | STO          | 0020                 | 1500                   | 3600           | 2676             | 0012999                          | 0026                       | 15090             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
| 127                         |              | OBS          | 0022                 | 1500                   | 36002          | 2676             |                                  |                            | 15090             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
|                             |              | STO          | 0030                 | 1498                   | 3600           | 2676             | 0012996                          | 0039                       | 15091             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
| 127                         |              | OBS          | 0045                 | 1497                   | 35996          | 2676             |                                  |                            | 15093             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
|                             |              | STO          | 0050                 | 1497                   | 3600           | 2677             | 0013041                          | 0065                       | 15094             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
| 127                         |              | OBS          | 0067                 | 1498                   | 36003          | 2677             |                                  |                            | 15097             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
|                             |              | STO          | 0075                 | 1498                   | 3600           | 2676             | 0013143                          | 0098                       | 15098             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
| 127                         |              | OBS          | 0089                 | 1499                   | 35998          | 2676             |                                  |                            | 15100             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
|                             |              | STO          | 0100                 | 1486                   | 3598           | 2678             | 0013104                          | 0131                       | 15098             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
|                             |              | STO          | 0125                 | 1463                   | 3595           | 2680             | 0012917                          | 0163                       | 15094             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
| 127                         |              | OBS          | 0133                 | 1457                   | 35937          | 2681             |                                  |                            | 15094             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
|                             |              | STO          | 0150                 | 1451                   | 3593           | 2681             | 0012888                          | 0195                       | 15094             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
| 127                         |              | OBS          | T0176                | 1442                   | 35911          | 2682             |                                  |                            | 15095             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
|                             |              | STO          | 0200                 | 1437                   | 3590           | 2682             | 0012964                          | 0260                       | 15098             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
|                             |              | STO          | 0250                 | 1418                   | 3585           | 2682             | 0013082                          | 0325                       | 15099             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
| 127                         |              | OBS          | 0266                 | 1409                   | 35838          | 2683             |                                  |                            | 15099             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
|                             |              | STO          | 0300                 | 1390                   | 3580           | 2684             | 0013016                          | 0390                       | 15098             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
| 127                         |              | OBS          | T0359                | 1337                   | 35718          | 2689             |                                  |                            | 15089             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
|                             |              | STO          | 0400                 | 1287                   | 3565           | 2694             | 0012320                          | 0517                       | 15078             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
| 127                         |              | OBS          | 0443                 | 1218                   | 35559          | 2701             |                                  |                            | 15061             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
|                             |              | STO          | 0500                 | 1094                   | 3538           | 2710             | 0010899                          | 0633                       | 15025             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
| 127                         |              | OBS          | T0527                | 1038                   | 35304          | 2714             |                                  |                            | 15008             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
|                             |              | STO          | 0600                 | 0886                   | 3515           | 2728             | 0009227                          | 0734                       | 14962             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
|                             |              | STO          | 0700                 | 0721                   | 3501           | 2742             | 0007867                          | 0819                       | 14914             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
| 127                         |              | OBS          | 0703                 | 0717                   | 35003          | 2742             |                                  |                            | 14913             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
|                             |              | STO          | 0800                 | 0617                   | 3498           | 2754             | 0006740                          | 0892                       | 14889             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
| 127                         |              | OBS          | T0877                | 0552                   | 34972          | 2761             |                                  |                            | 14876             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
|                             |              | STO          | 0900                 | 0542                   | 3497           | 2762             | 0005917                          | 0956                       | 14876             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
|                             |              | STO          | 1000                 | 0503                   | 3496           | 2766             | 0005590                          | 1013                       | 14876             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
|                             |              | STO          | 1100                 | 0469                   | 3495           | 2769             | 0005327                          | 1068                       | 14879             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
|                             |              | STO          | 1200                 | 0440                   | 3494           | 2772             | 0005126                          | 1120                       | 14883             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
|                             |              | STO          | 1300                 | 0417                   | 3494           | 2774             | 0004925                          | 1170                       | 14891             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
| 127                         |              | OBS          | T1335                | 0410                   | 34937          | 2775             |                                  |                            | 14893             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
|                             |              | STO          | 1400                 | 0404                   | 3494           | 2775             | 0004871                          | 1219                       | 14902             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
|                             |              | STO          | 1500                 | 0396                   | 3494           | 2776             | 0004856                          | 1268                       | 14915             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
| 183                         |              | OBS          | T1736                | 0380                   | 34938          | 2778             |                                  |                            | 14948             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
|                             |              | STO          | 1750                 | 0380                   | 3494           | 2778             | 0004851                          | 1389                       | 14951             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
|                             |              | STO          | 2000                 | 0370                   | 3493           | 2779             | 0004956                          | 1512                       | 14989             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
| 183                         |              | OBS          | 2177                 | 0361                   | 34930          | 2779             |                                  |                            | 15015             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
|                             |              | STO          | 2500                 | 0338                   | 3494           | 2782             | 0004863                          | 1757                       | 15061             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
| 183                         |              | OBS          | 2748                 | 0321                   | 34938          | 2784             |                                  |                            | 15096             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
|                             |              | STO          | 3000                 | 0307                   | 3493           | 2784             | 0004770                          | 1998                       | 15134             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
| 183                         |              | OBS          | T3264                | 0290                   | 34929          | 2786             |                                  |                            | 15173             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
| 183                         |              | OBS          | T3797                | 0247                   | 34917          | 2789             |                                  |                            | 15247             |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |
| 183                         |              | OBS          | 3902Q                | 0236                   | 34912          | 2789Q            |                                  |                            |                   |                     |                                 |                                |                                 |                                 |                                   |     |                      |                |                           |



TABLE VI.—Continued

| REFERENCE<br>CIP#<br>CODE  | SHIP<br>ID. NO. | LATITUDE<br>° ' 1/10 | LONGITUDE<br>° ' 1/10 | HARBOUR<br>SQUARE | STATION TIME<br>(GMT) |                       |                                 | YEAR                    | ORIGINATOR'S      |                     | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLE | WAVE<br>OBSERVATIONS            |                                 |                                   | WEA-<br>THER<br>CODE    | CLOUD<br>CODE | NODC<br>STATION<br>NUMBER |   |   |      |  |  |
|----------------------------|-----------------|----------------------|-----------------------|-------------------|-----------------------|-----------------------|---------------------------------|-------------------------|-------------------|---------------------|---------------------------------|-------------------------------|---------------------------------|---------------------------------|-----------------------------------|-------------------------|---------------|---------------------------|---|---|------|--|--|
|                            |                 |                      |                       |                   | MO DAY HR.1/10        |                       |                                 |                         | CRUISE<br>NO.     | STATION<br>NUMBER   |                                 |                               | DIR.                            | HGT<br>PER                      | SEA                               |                         |               |                           |   |   |      |  |  |
|                            |                 |                      |                       |                   | 10'                   | 1'                    | MO                              |                         |                   |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
| 311210                     | CS              | 4400 N               | 04100 W               |                   | 149                   | 41                    | 03                              | 13                      | 128               | 1966                | 015                             | 011                           | 4554                            | 17                              | 24                                | 1                       | 3             | X2                        | 6 | 8 | 0011 |  |  |
|                            |                 |                      |                       | WATER             |                       | WIND                  |                                 | BARO-<br>METER<br>(mba) |                   | AIR TEMP. °C        |                                 | VIL CODE                      |                                 | NO. OBS.<br>DEPTH               |                                   | SPECIAL<br>OBSERVATIONS |               |                           |   |   |      |  |  |
|                            |                 |                      |                       | COLOR<br>CODE     |                       | TRANS-<br>MIS-<br>SIN |                                 | SPEED<br>OF<br>DIR.     |                   | DRY<br>BULB         |                                 | WET<br>BULB                   |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
|                            |                 |                      |                       |                   |                       | 35                    |                                 | 518                     |                   | 254                 |                                 | 133                           |                                 | 122                             |                                   | 7                       |               | 14                        |   |   |      |  |  |
| MISSING<br>TIME<br>HR 1/10 | CAST<br>NO.     | CARD<br>TYPE         | DEPTH (m)             | T °C              | S ‰                   | SIGMA-T               | SPECIFIC VOLUME<br>AND WAT-100T | Σ Δ Δ<br>OTN. M.<br>10T | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>2</sub> =P<br>pg ± 0.1% | TOTAL-P<br>pg ± 0.1%          | NO <sub>3</sub> =N<br>pg ± 0.1% | NO <sub>3</sub> =N<br>pg ± 0.1% | SiO <sub>2</sub> =Si<br>pg ± 0.1% | pH                      | C             |                           |   |   |      |  |  |
| 128                        |                 | STO                  | 0000                  | 1465              | 3554                  | 2679                  | 0012639                         | 0000                    | 15074             |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
|                            |                 | OBS                  | 0000                  | 1465              | 3594.2                | 2679                  |                                 |                         | 15074             |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
|                            |                 | STO                  | 0010                  | 1464              | 3594                  | 2680                  | 0012639                         | 0013                    | 15076             |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
| 128                        |                 | STO                  | 0020                  | 1463              | 3595                  | 2680                  | 0012632                         | 0025                    | 15077             |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
|                            |                 | OBS                  | 0027                  | 1462              | 3594.6                | 2680                  |                                 |                         | 15078             |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
|                            |                 | STO                  | 0030                  | 1462              | 3595                  | 2680                  | 0012652                         | 0038                    | 15078             |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
| 128                        |                 | STO                  | 0050                  | 1465              | 3594                  | 2679                  | 0012792                         | 0063                    | 15082             |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
|                            |                 | OBS                  | 0053                  | 1465              | 3594.0                | 2679                  |                                 |                         | 15083             |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
|                            |                 | STO                  | 0075                  | 1461              | 3594                  | 2680                  | 0012783                         | 0095                    | 15085             |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
| 128                        |                 | OBS                  | 0081                  | 1460              | 3594.2                | 2680                  |                                 |                         | 15086             |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
|                            |                 | STO                  | 0100                  | 1459              | 3593                  | 2680                  | 0012904                         | 0127                    | 15089             |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
|                            |                 | OBS                  | 0107                  | 1458              | 3592.6                | 2680                  |                                 |                         | 15089             |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
| 128                        |                 | STO                  | 0125                  | 1444              | 3590                  | 2681                  | 0012887                         | 0160                    | 15088             |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
|                            |                 | STO                  | 0150                  | 1429              | 3587                  | 2681                  | 0012870                         | 0192                    | 15087             |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
|                            |                 | OBS                  | 0163                  | 1422              | 3586.3                | 2682                  |                                 |                         | 15086             |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
| 128                        |                 | STO                  | 0200                  | 1412              | 3585                  | 2684                  | 0012813                         | 0256                    | 15089             |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
|                            |                 | OBS                  | 0217                  | 1406              | 3583.9                | 2684                  |                                 |                         | 15090             |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
|                            |                 | STO                  | 0250                  | 1393              | 3581                  | 2685                  | 0012861                         | 0320                    | 15090             |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
| 128                        |                 | STO                  | 0300                  | 1361              | 3576                  | 2687                  | 0012718                         | 0384                    | 15088             |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
|                            |                 | OBS                  | 0326                  | 1339              | 3572.0                | 2689                  |                                 |                         | 15084             |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
|                            |                 | STO                  | 0400                  | 1251              | 3558                  | 2696                  | 0012128                         | 0508                    | 15065             |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
| 128                        |                 | OBS                  | 0437                  | 1198              | 3550.8                | 2701                  |                                 |                         | 15052             |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
|                            |                 | STO                  | 0500                  | 1093              | 3535                  | 2708                  | 0011101                         | 0625                    | 15024             |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
|                            |                 | OBS                  | 0550                  | 1001              | 3523.4                | 2715                  |                                 |                         | 14998             |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
| 128                        |                 | STO                  | 0600                  | 0885              | 3512                  | 2726                  | 0009430                         | 0727                    | 14962             |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
|                            |                 | OBS                  | 0662                  | 0766              | 3500.8                | 2735                  |                                 |                         | 14925             |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
|                            |                 | STO                  | 0700                  | 0721              | 3500                  | 2741                  | 0007941                         | 0814                    | 14914             |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
| 128                        |                 | STO                  | 0800                  | 0621              | 3497                  | 2752                  | 0006870                         | 0888                    | 14891             |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
|                            |                 | OBS                  | 0886                  | 0554              | 3496.2                | 2760                  |                                 |                         | 14878             |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
|                            |                 | STO                  | 0900                  | 0547              | 3496                  | 2761                  | 0006044                         | 0953                    | 14877             |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
| 128                        |                 | STO                  | 1000                  | 0504              | 3497                  | 2766                  | 0005567                         | 1011                    | 14877             |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
|                            |                 | STO                  | 1100                  | 0468              | 3497                  | 2771                  | 0005182                         | 1065                    | 14879             |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
|                            |                 | OBS                  | 1109                  | 0465              | 3496.8                | 2771                  |                                 |                         | 14879             |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
| 128                        |                 | STO                  | 1200                  | 0438              | 3496                  | 2774                  | 0004939                         | 1115                    | 14883             |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
|                            |                 | STO                  | 1300                  | 0415              | 3496                  | 2776                  | 0004782                         | 1164                    | 14890             |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
|                            |                 | STO                  | 1400                  | 0398              | 3495                  | 2777                  | 0004697                         | 1211                    | 14900             |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
| 128                        |                 | STO                  | 1500                  | 0388              | 3494                  | 2778                  | 0004699                         | 1258                    | 14912             |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |
|                            |                 | OBS                  | 11660                 | 0386              | 3493.4                | 2777                  |                                 |                         | 14938             |                     |                                 |                               |                                 |                                 |                                   |                         |               |                           |   |   |      |  |  |

| REFERENCE          | SHIP CODE | LATITUDE  | LONGITUDE | MARCONI SQUARE | STATION TIME (GMT) | YEAR         | ORIGINATOR'S                  |                | DEPTH TO BOTTOM       | MAR. DEPTH     | WAVE OBSERVATIONS   |  |                               | WEATHER CODE                             | CLOUD CODES                              | NOBC STATION NUMBER                        |      |      |  |
|--------------------|-----------|-----------|-----------|----------------|--------------------|--------------|-------------------------------|----------------|-----------------------|----------------|---------------------|--|-------------------------------|--|--|--|------|------|--|
| CRFT CODE          | ID. NO.   | " 1/10    | " 1/10    | 10" 1"         | MO DAY HRS 1/10    |              | CRUISE NO.                    | STATION NUMBER |                       |                | DIR                 | HGT                                      | PER                           | SEA                                      | TYPE                                     | AMT  |      |      |  |
| 311210             | CS        | 4401 N    | 04059 W   | 149 40         | 03 14 129          | 1968         | 015                           | 012            | 4572                  | 15             | 36                  | 0  | 3                             |  | X1                                       | 6 5  | 0012 |      |  |
|                    |           |           |           | WATER          | WIND               | AIR TEMP. °C |                               |                |                       |                |                     |  |                               |  |  |  |      |      |  |
|                    |           |           |           | COLO CODE      | TRANS. IN          | DIR.         | SPEED OF FORCE                | BARO-METER     | DRT BULB              | WET BULB       | VIS. CODE           | NO. OBS. DEFS                            | SPECIAL OBSERVATIONS          |  |  |  |      |      |  |
|                    |           |           |           |                |                    |              | 19                            | 509            | 339                   | 138            | 113                 | 7  | 13                            |  |  |  |      |      |  |
| MESSAGE TIME & NO. | CAST NO.  | CARD TYPE | DEPTH (m) | T °C           | S ‰                | SIGMA-T      | SPECIFIC VOLUME AND WALT-1018 |                | Σ Δ D OTHER, m. ± 10" | SOUND VELOCITY | O <sub>2</sub> ml/l | PO <sub>2</sub> =P p <sub>g</sub> ± 0.1% | TOTAL-P p <sub>g</sub> ± 0.1% | NO <sub>3</sub> -N p <sub>g</sub> ± 0.1% | NO <sub>3</sub> -N p <sub>g</sub> ± 0.1% | SiO <sub>4</sub> =Si p <sub>g</sub> ± 0.1% | pH   | S CC |  |
| 129                |           | STO       | 0000      | 1492           | 3599               | 2677         | 0012836                       |                | 0000                  | 15084          |                     |  |                               |  |  |  |      |      |  |
|                    |           | OBS       | 0000      | 1492           | 35992              | 2677         |                               |                |                       | 15084          |                     |  |                               |  |  |  |      |      |  |
|                    |           | STO       | 0010      | 1491           | 3599               | 2677         | 0012857                       |                | 0013                  | 15085          |                     |  |                               |  |  |  |      |      |  |
| 129                |           | STO       | 0020      | 1490           | 3599               | 2677         | 0012879                       |                | 0026                  | 15086          |                     |  |                               |  |  |  |      |      |  |
|                    |           | OBS       | 0025      | 1490           | 35990              | 2677         |                               |                |                       | 15087          |                     |  |                               |  |  |  |      |      |  |
|                    |           | STO       | 0030      | 1490           | 3599               | 2677         | 0012905                       |                | 0039                  | 15088          |                     |  |                               |  |  |  |      |      |  |
| 129                |           | STO       | 0050      | 1491           | 3599               | 2677         | 0012983                       |                | 0064                  | 15091          |                     |  |                               |  |  |  |      |      |  |
|                    |           | OBS       | 0051      | 1491           | 35990              | 2677         |                               |                |                       | 15092          |                     |  |                               |  |  |  |      |      |  |
|                    |           | STO       | 0075      | 1487           | 3599               | 2678         | 0012973                       |                | 0097                  | 15074          |                     |  |                               |  |  |  |      |      |  |
| 129                |           | OBS       | 0076      | 1487           | 35991              | 2678         |                               |                |                       | 15094          |                     |  |                               |  |  |  |      |      |  |
|                    |           | STO       | 0100      | 1488           | 3599               | 2678         | 0013071                       |                | 0129                  | 15039          |                     |  |                               |  |  |  |      |      |  |
|                    | 129       |           | OBS       | 0105           | 1488               | 35986        | 2678                          |                |                       |                | 15099               |  |                               |  |  |  |      |      |  |
|                    |           | STO       | 0120      | 1490           | 3599               | 2677         | 0013219                       |                | 0162                  | 15103          |                     |  |                               |  |  |  |      |      |  |
|                    |           | STO       | 0150      | 1492           | 3599               | 2677         | 0013337                       |                | 0196                  | 15108          |                     |  |                               |  |  |  |      |      |  |
| 129                |           | OBS       | 0151      | 1492           | 35986              | 2677         |                               |                |                       | 15108          |                     |  |                               |  |  |  |      |      |  |
|                    |           | STO       | 0200      | 1455           | 3594               | 2681         | 0013047                       |                | 0262                  | 15104          |                     |  |                               |  |  |  |      |      |  |
|                    | 129       |           | OBS       | T0202          | 1454               | 35936        | 2681                          |                |                       |                | 15104               |  |                               |  |  |  |      |      |  |
|                    |           | STO       | 0250      | 1440           | 3589               | 2681         | 0013247                       |                | 0327                  | 15107          |                     |  |                               |  |  |  |      |      |  |
|                    |           | STO       | 0300      | 1412           | 3583               | 2682         | 0013249                       |                | 0393                  | 15105          |                     |  |                               |  |  |  |      |      |  |
| 129                |           | OBS       | 0303      | 1410           | 35829              | 2682         |                               |                |                       | 15105          |                     |  |                               |  |  |  |      |      |  |
|                    |           | STO       | 0400      | 1317           | 3568               | 2690         | 0012695                       |                | 0523                  | 15088          |                     |  |                               |  |  |  |      |      |  |
|                    | 129       |           | OBS       | T0402          | 1314               | 35675        | 2690                          |                |                       |                | 15088               |  |                               |  |  |  |      |      |  |
|                    |           | STO       | 0500      | 1154           | 3544               | 2704         | 0011561                       |                | 0644                  | 15046          |                     |  |                               |  |  |  |      |      |  |
| 129                |           |           | OBS       | 0505           | 1144               | 35433        | 2705                          |                |                       |                | 15044               |  |                               |  |  |  |      |      |  |
|                    |           | STO       | 0600      | 0929           | 3527               | 2730         | 0009055                       |                | 0748                  | 14980          |                     |  |                               |  |  |  |      |      |  |
|                    | 129       |           | OBS       | T0607          | 0915               | 3412P        | 2643Q                         |                |                       |                |                     |  |                               |  |  |  |      |      |  |
|                    |           | STO       | 0700      | 0760           | 3512               | 2745         | 0007645                       |                | 0831                  | 14931          |                     |  |                               |  |  |  |      |      |  |
|                    |           | STO       | 0800      | 0619           | 3500               | 2755         | 0006621                       |                | 0902                  | 14890          |                     |  |                               |  |  |  |      |      |  |
| 129                |           | OBS       | 0813      | 0603           | 34988              | 2756         |                               |                |                       | 14886          |                     |  |                               |  |  |  |      |      |  |
|                    |           | OBS       | T1534     | 0357           | 34933              | 2776         |                               |                |                       | 14921          |                     |  |                               |  |  |  |      |      |  |



TABLE VI.—Continued

| REFERENCE                  |             | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MARSSEN<br>SQUARE | STATION TIME<br>IGMTI |   | YEAR           | ORIGINATOR'S                          |                   | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPLES  | WAVE<br>OBSERVATIONS  |                                 |                                 | WEA-<br>THER<br>CODE              | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |
|----------------------------|-------------|--------------|--------------------|---------------------|-------------------|-----------------------|---|----------------|---------------------------------------|-------------------|-----------------------|---------------------------------|-----------------------|---------------------------------|---------------------------------|-----------------------------------|----------------|---------------------------|
| CTRY<br>CODE               | ID.<br>NO.  |              |                    |                     |                   | CRUISE<br>NO.         | STATION<br>NUMBER                         |                | DR.                                   | HGT               |                       |                                 | PER                   | SEA                             |                                 |                                   |                |                           |
| 311210                     | CS          | 4400 N       | 04100 W            | 149 41              | 03 15 128         | 1968                  | 015 013                                   | 4609           | 16                                    | 23                | 2                     | 2                               | X1                    | 6 5                             |                                 |                                   | 0013           |                           |
|                            |             |              |                    | WATER               |                   | WIND                  |   | BARO-<br>METER |                                       | AIR TEMP. °C      |                       | VIL<br>CODE                     | NO.<br>OBS.<br>DEPTHS | SPECIAL<br>OBSERVATIONS         |                                 |                                   |                |                           |
|                            |             |              |                    | COLOR<br>CODE       | TRANS-<br>MIT     | DIR.                  | SPEED<br>OF<br>FORCE                      | DRY<br>BULB    | WET<br>BULB                           | DRY<br>BULB       | WET<br>BULB           |                                 |                       |                                 |                                 |                                   |                |                           |
|                            |             |              |                    |                     |                   |                       | 26  | 52.6           | 308                                   | 167               | 161                   | 7                               | 14                    |                                 |                                 |                                   |                |                           |
| MESSAGE<br>TIME<br>HR 1/10 | CAST<br>NO. | CARD<br>TYPE | DEPTH (m)          | T °C                | S ‰               | SIGMA-T               | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> |                | Σ Δ σ<br>OTN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l   | PO <sub>2</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l  | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH             |                           |
| 128                        | STD         | 0000         | 1487               | 3598                | 2677              | 0012834               | 0000                                      | 15082          |                                       |                   |                       |                                 |                       |                                 |                                 |                                   |                |                           |
|                            | 085         | 0000         | 1487               | 35978               | 2677              |                       |   | 15082          |                                       |                   |                       |                                 |                       |                                 |                                 |                                   |                |                           |
|                            | STD         | 0010         | 1486               | 3598                | 2677              | 0012855               | 0013                                      | 15083          |                                       |                   |                       |                                 |                       |                                 |                                 |                                   |                |                           |
|                            | STD         | 0020         | 1485               | 3598                | 2677              | 0012874               | 0026                                      | 15085          |                                       |                   |                       |                                 |                       |                                 |                                 |                                   |                |                           |
| 128                        | 085         | 0024         | 1485               | 35976               | 2677              |                       |   | 15085          |                                       |                   |                       |                                 |                       |                                 |                                 |                                   |                |                           |
|                            | STD         | 0030         | 1486               | 3598                | 2677              | 0012919               | 0039                                      | 15086          |                                       |                   |                       |                                 |                       |                                 |                                 |                                   |                |                           |
| 128                        | 085         | 0048         | 1487               | 35977               | 2677              |                       |   | 15090          |                                       |                   |                       |                                 |                       |                                 |                                 |                                   |                |                           |
|                            | STD         | 0050         | 1486               | 3598                | 2677              | 0012973               | 0064                                      | 15090          |                                       |                   |                       |                                 |                       |                                 |                                 |                                   |                |                           |
| 128                        | 085         | 0072         | 1483               | 35978               | 2678              |                       |   | 15092          |                                       |                   |                       |                                 |                       |                                 |                                 |                                   |                |                           |
|                            | STD         | 0075         | 1483               | 3598                | 2678              | 0012981               | 0097                                      | 15093          |                                       |                   |                       |                                 |                       |                                 |                                 |                                   |                |                           |
| 128                        | 085         | 0096         | 1464               | 35976               | 2678              |                       |   | 15097          |                                       |                   |                       |                                 |                       |                                 |                                 |                                   |                |                           |
|                            | STD         | 0100         | 1484               | 3598                | 2678              | 0013095               | 0130                                      | 15097          |                                       |                   |                       |                                 |                       |                                 |                                 |                                   |                |                           |
|                            | STD         | 0125         | 1485               | 3598                | 2677              | 0013200               | 0162                                      | 15102          |                                       |                   |                       |                                 |                       |                                 |                                 |                                   |                |                           |
| 128                        | 085         | 0144         | 1486               | 35975               | 2677              |                       |   | 15105          |                                       |                   |                       |                                 |                       |                                 |                                 |                                   |                |                           |
|                            | STD         | 0150         | 1481               | 3597                | 2678              | 0013224               | 0195                                      | 15104          |                                       |                   |                       |                                 |                       |                                 |                                 |                                   |                |                           |
|                            | STD         | T0191        | 1448               | 35910               | 2680              |                       |   | 15100          |                                       |                   |                       |                                 |                       |                                 |                                 |                                   |                |                           |
| 128                        | STD         | 0200         | 1442               | 3590                | 2681              | 0013068               | 0261                                      | 15099          |                                       |                   |                       |                                 |                       |                                 |                                 |                                   |                |                           |
|                            | STD         | 0250         | 1413               | 3587                | 2685              | 0012834               | 0326                                      | 15098          |                                       |                   |                       |                                 |                       |                                 |                                 |                                   |                |                           |
|                            | 085         | 0288         | 1394               | 35839               | 2687              |                       |   | 15097          |                                       |                   |                       |                                 |                       |                                 |                                 |                                   |                |                           |
| 128                        | STD         | 0300         | 1389               | 3583                | 2687              | 0012803               | 0390                                      | 15098          |                                       |                   |                       |                                 |                       |                                 |                                 |                                   |                |                           |
|                            | 085         | T0387        | 1354               | 35743               | 2688              |                       |   | 15099          |                                       |                   |                       |                                 |                       |                                 |                                 |                                   |                |                           |
|                            | STD         | 0400         | 1332               | 3571                | 2690              | 0012777               | 0518                                      | 15094          |                                       |                   |                       |                                 |                       |                                 |                                 |                                   |                |                           |
| 128                        | 085         | 0484         | 1166               | 35472               | 2704              |                       |   | 15048          |                                       |                   |                       |                                 |                       |                                 |                                 |                                   |                |                           |
|                            | STD         | 0500         | 1123               | 3541                | 2707              | 0011208               | 0638                                      | 15035          |                                       |                   |                       |                                 |                       |                                 |                                 |                                   |                |                           |
|                            | 085         | T0584        | 0923               | 35153               | 2722              |                       |   | 14974          |                                       |                   |                       |                                 |                       |                                 |                                 |                                   |                |                           |
| 128                        | STD         | 0600         | 0894               | 3514                | 2726              | 0009430               | 0741                                      | 14965          |                                       |                   |                       |                                 |                       |                                 |                                 |                                   |                |                           |
|                            | STD         | 0700         | 0734               | 3505                | 2743              | 0007767               | 0827                                      | 14920          |                                       |                   |                       |                                 |                       |                                 |                                 |                                   |                |                           |
|                            | 085         | 0789         | 0626               | 34994               | 2754              |                       |   | 14891          |                                       |                   |                       |                                 |                       |                                 |                                 |                                   |                |                           |
|                            | STD         | 0800         | 0618               | 3499                | 2754              | 0006680               | 0899                                      | 14890          |                                       |                   |                       |                                 |                       |                                 |                                 |                                   |                |                           |
|                            | STD         | 0900         | 0554               | 3499                | 2762              | 0005932               | 0962                                      | 14881          |                                       |                   |                       |                                 |                       |                                 |                                 |                                   |                |                           |
| 128                        | 085         | T0999        | 0502               | 34980               | 2768              |                       |   | 14876          |                                       |                   |                       |                                 |                       |                                 |                                 |                                   |                |                           |
| 128                        | 085         | T1559        | 0407               | 34964               | 2777              |                       |   | 14930          |                                       |                   |                       |                                 |                       |                                 |                                 |                                   |                |                           |

| REFERENCE<br>CTRY<br>CODE  | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MARSSEN<br>SQUARE | STATION TIME<br>IGMTI |         | YEAR                                      | ORIGINATOR'S                          |                   | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPLES  | WAVE<br>OBSERVATIONS |                                 |                                 | WEA-<br>THER<br>CODE              | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |                   |
|----------------------------|--------------|--------------------|---------------------|-------------------|-----------------------|---------|---|---------------------------------------|-------------------|-----------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|----------------|---------------------------|-------------------|
|                            |              |                    |                     |                   | 15°                   | 1'      |   | MO                                    | DAY               |                       |                                 | HR                   | 1/10                            | CRUISE<br>NO.                   |                                   |                |                           | STATION<br>NUMBER |
| 311210                     | CS           | 4401 N             | 04104 W             | 149 41            | 03                    | 16      | 130                                       | 1968                                  | 015               | 014                   | 4590                            | 15                   | 36                              | 2                               | 3                                 | X2             | 6 8                       | 0014              |
|                            |              |                    |                     | WATER             |                       | WIND    |   | BARO-<br>METER                        |                   | AIR TEMP. °C          |                                 | VIL<br>CODE          | NO.<br>OBS.<br>DEPTHS           | SPECIAL<br>OBSERVATIONS         |                                   |                |                           |                   |
|                            |              |                    |                     | COLOR<br>CODE     | TRANS-<br>MIT         | DIR.    | SPEED<br>OF<br>FORCE                      | DRY<br>BULB                           | WET<br>BULB       | DRY<br>BULB           | WET<br>BULB                     |                      |                                 |                                 |                                   |                |                           |                   |
|                            |              |                    |                     | 36                |                       | 52.0    | 420                                       | 083                                   | 061               | 7                     | 14                              |                      |                                 |                                 |                                   |                |                           |                   |
| MESSAGE<br>TIME<br>HR 1/10 | CAST<br>NO.  | CARO<br>TYPE       | DEPTH (m)           | T °C              | S ‰                   | SIGMA-T | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> | S Δ σ<br>OTN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l   | PO <sub>2</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH             |                           |                   |
|                            |              |                    |                     |                   |                       |         |   |                                       |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |                   |
| 130                        | STD          | 0000               | 1445                | 3591              | 2681                  | 0012440 | 0000                                      | 15068                                 |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |                   |
|                            | 085          | 0000               | 1445                | 35912             | 2681                  |         |   | 15068                                 |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |                   |
|                            | STD          | 0010               | 1446                | 3591              | 2681                  | 0012485 | 0012                                      | 15070                                 |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |                   |
| 130                        | STD          | 0020               | 1447                | 3591              | 2681                  | 0012526 | 0025                                      | 15071                                 |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |                   |
|                            | 085          | 0024               | 1447                | 35914             | 2681                  |         |   | 15072                                 |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |                   |
|                            | STD          | 0030               | 1448                | 3592              | 2681                  | 0012568 | 0038                                      | 15074                                 |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |                   |
| 130                        | 085          | 0048               | 1450                | 35920             | 2681                  |         |   | 15077                                 |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |                   |
|                            | STD          | 0050               | 1450                | 3592              | 2681                  | 0012641 | 0063                                      | 15078                                 |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |                   |
|                            | 085          | 0072               | 1447                | 35924             | 2682                  |         |   | 15080                                 |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |                   |
| 130                        | STD          | 0075               | 1447                | 3592              | 2681                  | 0012654 | 0094                                      | 15081                                 |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |                   |
|                            | 085          | 0096               | 1447                | 35914             | 2681                  |         |   | 15084                                 |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |                   |
|                            | STD          | 0100               | 1442                | 3590              | 2681                  | 0012771 | 0126                                      | 15083                                 |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |                   |
| 130                        | STD          | 0125               | 1416                | 3585              | 2683                  | 0012676 | 0158                                      | 15078                                 |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |                   |
|                            | 085          | 0145               | 1402                | 35826             | 2684                  |         |   | 15076                                 |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |                   |
|                            | STD          | 0150               | 1402                | 3582              | 2683                  | 0012683 | 0190                                      | 15077                                 |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |                   |
| 130                        | 085          | T0192              | 1391                | 35801             | 2684                  |         |   | 15080                                 |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |                   |
|                            | STD          | 0200               | 1385                | 3579              | 2685                  | 0012701 | 0253                                      | 15079                                 |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |                   |
|                            | STD          | 0250               | 1348                | 3573              | 2688                  | 0012535 | 0316                                      | 15075                                 |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |                   |
| 130                        | 085          | 0289               | 1320                | 35686             | 2690                  |         |   | 15071                                 |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |                   |
|                            | STD          | 0300               | 1316                | 3568              | 2690                  | 0012402 | 0379                                      | 15072                                 |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |                   |
|                            | 085          | T0385              | 1253                | 35602             | 2697                  |         |   | 15064                                 |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |                   |
| 130                        | STD          | 0400               | 1233                | 3557              | 2699                  | 0011854 | 0500                                      | 15059                                 |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |                   |
|                            | 085          | 0481               | 1116                | 35399             | 2708                  |         |   | 15029                                 |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |                   |
|                            | STD          | 0500               | 1085                | 3535              | 2709                  | 0010957 | 0614                                      | 15021                                 |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |                   |
| 130                        | 085          | T0575              | 0962                | 35190             | 2718                  |         |   | 14987                                 |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |                   |
|                            | STD          | 0600               | 0911                | 3515              | 2724                  | 0009636 | 0717                                      | 14972                                 |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |                   |
|                            | STD          | 0700               | 0738                | 3504              | 2742                  | 0007900 | 0805                                      | 14921                                 |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |                   |
| 130                        | 085          | 0771               | 0644                | 34985             | 2750                  |         |   | 14895                                 |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |                   |
|                            | STD          | 0800               | 0620                | 3498              | 2753                  | 0006782 | 0878                                      | 14890                                 |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |                   |
|                            | STD          | 0900               | 0548                | 3498              | 2762                  | 0005924 | 0941                                      | 14878                                 |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |                   |
| 130                        | 085          | T0871              | 0505                | 34575             | 2767                  |         |   | 14872                                 |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |                   |
|                            | STD          | 1000               | 0499                | 3498              | 2768                  | 0005408 | 0998                                      | 14875                                 |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |                   |
|                            | STD          | 1100               | 0479                | 3497              | 2770                  | 0005285 | 1052                                      | 14883                                 |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |                   |
| 130                        | STD          | 1200               | 0459                | 3497              | 2772                  | 0005157 | 1104                                      | 14892                                 |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |                   |
|                            | STD          | 1300               | 0439                | 3497              | 2774                  | 0005025 | 1155                                      | 14900                                 |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |                   |
|                            | STD          | 1400               | 0419                | 3496              | 2776                  | 0004894 | 1204                                      | 14909                                 |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |                   |
| 130                        | 085          | T1481              | 0403                | 34558             | 2777                  |         |   | 14915                                 |                   |                       |                                 |                      |                                 |                                 |                                   |                |                           |                   |



TABLE VI.—Continued

| REFERENCE<br>CITY<br>CODE  | SHIP<br>ID.<br>NO. | SHIP<br>CODE  | LATITUDE<br>°<br>1/10 | LONGITUDE<br>°<br>1/10 | MARS<br>DEN<br>SQUARE | STATION TIME<br>1/10 |                                |                | YEAR              | ORIGINATOR'S<br>CRUISE<br>NO. |                     | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>S.W.P.S. | WAVE<br>OBSERVATIONS            |                                 |                                   | WEA-<br>THER<br>CODE | CLOUD<br>CODES<br>TYP AMT | NODC<br>STATION<br>NUMBER |     |
|----------------------------|--------------------|---------------|-----------------------|------------------------|-----------------------|----------------------|--------------------------------|----------------|-------------------|-------------------------------|---------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|-----------------------------------|----------------------|---------------------------|---------------------------|-----|
|                            |                    |               |                       |                        |                       | 10"                  | 1"                             | MO DAY HR.1/10 |                   | 015                           | 015                 |                                 |                                 | DIR                             | HGT                             | PER                               |                      |                           |                           | SEA |
| 311210                     | CS                 |               | 4400 N                | 04100 W                | 149                   | 41                   | 03 17                          | 130            | 1968              | 015                           | 015                 | 4590                            | 15                              | 32                              | 1                               | 4                                 | X2                   | 6 8                       | 0015                      |     |
|                            |                    |               |                       |                        |                       |                      |                                |                |                   |                               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
|                            |                    | WATER         |                       | WIND                   |                       | BARO-<br>METER       |                                | AIR TEMP. °C   |                   | VIL                           |                     | NO. OF<br>DEPTHS                |                                 | SPECIAL<br>OBSERVATIONS         |                                 |                                   |                      |                           |                           |     |
|                            |                    | COLOR<br>CODE | TRANS.<br>MM          | DIR.                   | SPED<br>OR<br>FORCE   | MMHG                 | INCH                           | DRY<br>RULR    | WET<br>RULR       | CODE                          | CODE                |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
|                            |                    | 34            | 503                   | 389                    |                       |                      |                                | 106            | 072               | 7                             | 14                  |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
| MEASURE<br>TIME<br>HR 1/10 | CAS<br>NO.         | CARD<br>TYPE  | DEPTH<br>m            | T °C                   | S %                   | SIGMA-T              | SPECIFIC VOLUME<br>ANOMALY-20° |                | SOUND<br>VELOCITY |                               | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l            | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>3</sub> -H<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | PH                   |                           |                           |     |
| 130                        |                    | STD           | 0000                  | 1479                   | 3599                  | 2680                 | 0012557                        |                | 0000              |                               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
|                            |                    | DBS           | 0000                  | 1479                   | 3599                  | 2680                 |                                |                |                   |                               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
|                            |                    | STD           | 0010                  | 1479                   | 3599                  | 2680                 | 0012596                        |                | 0013              |                               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
| 130                        |                    | STD           | 0020                  | 1480                   | 3599                  | 2680                 | 0012635                        |                | 0025              |                               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
|                            |                    | DBS           | 0024                  | 1480                   | 3599                  | 2680                 |                                |                |                   |                               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
|                            |                    | STD           | 0030                  | 1482                   | 3599                  | 2679                 | 0012733                        |                | 0038              |                               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
| 130                        |                    | DBS           | 0049                  | 1484                   | 3598                  | 2679                 |                                |                |                   |                               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
|                            |                    | STD           | 0050                  | 1484                   | 3599                  | 2679                 | 0012836                        |                | 0063              |                               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
|                            |                    | DBS           | 0073                  | 1480                   | 3599                  | 2680                 |                                |                |                   |                               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
| 130                        |                    | STD           | 0075                  | 1480                   | 3599                  | 2680                 | 0012826                        |                | 0096              |                               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
|                            |                    | DBS           | 0098                  | 1482                   | 3599                  | 2679                 |                                |                |                   |                               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
|                            |                    | STD           | 0100                  | 1462                   | 3599                  | 2679                 | 0012949                        |                | 0128              |                               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
| 130                        |                    | STD           | 0125                  | 1484                   | 3599                  | 2679                 | 0013044                        |                | 0160              |                               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
|                            |                    | DBS           | 0147                  | 1485                   | 3599                  | 2679                 |                                |                |                   |                               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
|                            |                    | STD           | 0150                  | 1485                   | 3599                  | 2679                 | 0013133                        |                | 0193              |                               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
| 130                        |                    | DBS           | T0195                 | 1484                   | 3599                  | 2679                 |                                |                |                   |                               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
|                            |                    | STD           | 0200                  | 1483                   | 3599                  | 2679                 | 0013271                        |                | 0259              |                               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
|                            |                    | STD           | 0250                  | 1459                   | 3593                  | 2680                 | 0013353                        |                | 0326              |                               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
| 130                        |                    | DBS           | 0294                  | 1425                   | 3586                  | 2682                 |                                |                |                   |                               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
|                            |                    | STD           | 0300                  | 1418                   | 3586                  | 2683                 | 0013155                        |                | 0392              |                               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
|                            |                    | DBS           | T0395                 | 1296                   | 3565                  | 2693                 |                                |                |                   |                               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
| 130                        |                    | STD           | 0400                  | 1289                   | 3565                  | 2694                 | 0012359                        |                | 0519              |                               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
|                            |                    | DBS           | 0492                  | 1141                   | 3542                  | 2705                 |                                |                |                   |                               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
|                            |                    | STD           | 0500                  | 1122                   | 3540                  | 2707                 | 0011262                        |                | 0637              |                               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
| 130                        |                    | DBS           | T0586                 | 0938                   | 3517                  | 2721                 |                                |                |                   |                               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
|                            |                    | STD           | 0600                  | 0909                   | 3515                  | 2724                 | 0009603                        |                | 0742              |                               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
|                            |                    | STD           | 0700                  | 0730                   | 3504                  | 2743                 | 0007780                        |                | 0829              |                               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
| 130                        |                    | DBS           | 0789                  | 0610                   | 3497                  | 2754                 |                                |                |                   |                               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
|                            |                    | STD           | 0800                  | 0601                   | 3497                  | 2755                 | 0006591                        |                | 0901              |                               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
|                            |                    | STD           | 0900                  | 0531                   | 3496                  | 2763                 | 0005844                        |                | 0963              |                               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
| 130                        |                    | DBS           | T0993                 | 0478                   | 3495                  | 2768                 |                                |                |                   |                               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
|                            |                    | STD           | 1000                  | 0477                   | 3495                  | 2768                 | 0005322                        |                | 1019              |                               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
|                            |                    | STD           | 1100                  | 0461                   | 3454                  | 2769                 | 0005290                        |                | 1072              |                               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
| 130                        |                    | STD           | 1200                  | 0444                   | 3494                  | 2771                 | 0005180                        |                | 1124              |                               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
|                            |                    | STD           | 1300                  | 0428                   | 3494                  | 2773                 | 0005054                        |                | 1175              |                               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
|                            |                    | STD           | 1400                  | 0411                   | 3494                  | 2775                 | 0004944                        |                | 1225              |                               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |
| 130                        |                    | DBS           | T1481                 | 0398                   | 3494                  | 2776                 |                                |                |                   |                               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |                           |     |

| REFERENCE                  |            | SHIP<br>CODE | LATITUDE<br>°<br>1/10 | LONGITUDE<br>°<br>1/10 | MARS DEN<br>SQUARE<br>1/10 | STATION TIME<br>1/10 |                                |                | YEAR              | ORIGINATOR'S  |                     | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>S.W.P.S. | WAVE<br>OBSERVATIONS            |                                 |                                   | WEA-<br>THER<br>CODE | CLOUD<br>CODES<br>TYP AMT |      | NODC<br>STATION<br>NUMBER |
|----------------------------|------------|--------------|-----------------------|------------------------|----------------------------|----------------------|--------------------------------|----------------|-------------------|---------------|---------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|-----------------------------------|----------------------|---------------------------|------|---------------------------|
| CITY<br>CODE               | ID.<br>NO. |              |                       |                        |                            | 10"                  | 1"                             | MO DAY HR.1/10 |                   | CRUISE<br>NO. | STATION<br>NUMBER   |                                 |                                 | DIR                             | HGT                             | PER                               |                      | SEA                       | 10"  |                           |
| 311210                     |            | CS           | 4400 N                | 04100 W                | 149                        | 41                   | 03 18                          | 128            | 1968              | 015           | 016                 | 4645                            | 14                              | 32                              | 1 2                             |                                   | X1                   | 8 3                       | 0016 |                           |
|                            |            |              |                       |                        |                            |                      |                                |                |                   |               |                     |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |
|                            |            | WATER        |                       | WIND                   |                            | BARO-<br>METER       |                                | AIR TEMP. °C   |                   | VIL           |                     | NO. OF<br>DEPTHS                |                                 | SPECIAL<br>OBSERVATIONS         |                                 |                                   |                      |                           |      |                           |
|                            |            | COLOR        | TRANS.                | DIR.                   | SPED<br>OR<br>FORCE        | MMHG                 | INCH                           | DRY<br>BULB    | WET<br>BULB       | CODE          | CODE                |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |
|                            |            |              |                       |                        | 26                         | 506                  | 345                            | 138            | 093               | 7             | 14                  |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |
| MEASURE<br>TIME<br>HR 1/10 | CAS<br>NO. | CARD<br>TYPE | DEPTH<br>m            | T °C                   | S %                        | SIGMA-T              | SPECIFIC VOLUME<br>ANOMALY-20° |                | SOUND<br>VELOCITY |               | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l            | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>3</sub> -H<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | PH                   |                           |      |                           |
| 128                        |            | STD          | 0000                  | 1419                   | 3587                       | 2684                 | 0012208                        |                | 0000              |               | 15059               |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |
|                            |            | DBS          | 0003                  | 1419                   | 3587                       | 2684                 |                                |                |                   |               | 15059               |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |
|                            |            | STD          | 0010                  | 1421                   | 3588                       | 2684                 | 0012262                        |                | 0012              |               | 15061               |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |
| 128                        |            | STD          | 0020                  | 1424                   | 3588                       | 2683                 | 0012322                        |                | 0025              |               | 15064               |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |
|                            |            | DBS          | 0022                  | 1424                   | 3587                       | 2683                 |                                |                |                   |               | 15064               |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |
|                            |            | STD          | 0030                  | 1426                   | 3588                       | 2683                 | 0012403                        |                | 0037              |               | 15066               |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |
| 128                        |            | DBS          | 0045                  | 1427                   | 3587                       | 2682                 |                                |                |                   |               | 15069               |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |
|                            |            | STD          | 0050                  | 1426                   | 3588                       | 2682                 | 0012477                        |                | 0062              |               | 15069               |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |
|                            |            | DBS          | 0065                  | 1423                   | 3587                       | 2683                 |                                |                |                   |               | 15071               |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |
| 128                        |            | STD          | 0075                  | 1424                   | 3588                       | 2683                 | 0012485                        |                | 0093              |               | 15073               |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |
|                            |            | DBS          | 0086                  | 1424                   | 3587                       | 2683                 |                                |                |                   |               | 15075               |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |
|                            |            | STD          | 0100                  | 1422                   | 3588                       | 2684                 | 0012506                        |                | 0124              |               | 15076               |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |
| 128                        |            | STD          | 0125                  | 1420                   | 3588                       | 2684                 | 0012539                        |                | 0156              |               | 15080               |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |
|                            |            | DBS          | 0130                  | 1419                   | 3588                       | 2684                 |                                |                |                   |               | 15080               |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |
|                            |            | STD          | 0150                  | 1417                   | 3588                       | 2685                 | 0012551                        |                | 0187              |               | 15083               |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |
| 128                        |            | DBS          | T0170                 | 1415                   | 3587                       | 2685                 |                                |                |                   |               | 15085               |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |
|                            |            | STD          | 0200                  | 1412                   | 3587                       | 2685                 | 0012667                        |                | 0250              |               | 15089               |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |
|                            |            | STD          | 0250                  | 1401                   | 3584                       | 2685                 | 0012806                        |                | 0314              |               | 15093               |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |
| 128                        |            | DBS          | 0258                  | 1399                   | 3583                       | 2685                 |                                |                |                   |               | 15094               |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |
|                            |            | STD          | 0300                  | 1391                   | 3581                       | 2685                 | 0012963                        |                | 0378              |               | 15098               |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |
|                            |            | DBS          | T0345                 | 1363                   | 3575                       | 2687                 |                                |                |                   |               | 15096               |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |
| 128                        |            | STD          | 0400                  | 1304                   | 3566                       | 2691                 | 0012582                        |                | 0506              |               | 15084               |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |
|                            |            | DBS          | 0432                  | 1253                   | 3558                       | 2696                 |                                |                |                   |               | 15071               |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |
|                            |            | STD          | 0500                  | 1058                   | 3537                       | 2709                 | 0011045                        |                | 0624              |               | 15026               |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |
| 128                        |            | DBS          | T0518                 | 1059                   | 3532                       | 2712                 |                                |                |                   |               | 15014               |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |
|                            |            | STD          | 0600                  | 0880                   | 3515                       | 2729                 | 0009129                        |                | 0725              |               | 14960               |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |
|                            |            | STD          | 0700                  | 0711                   | 3501                       | 2743                 | 0007719                        |                | 0809              |               | 14910               |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |
| 128                        |            | DBS          | 0702                  | 0708                   | 3500                       | 2743                 |                                |                |                   |               | 14909               |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |
|                            |            | STD          | 0800                  | 0611                   | 3498                       | 2754                 | 0006656                        |                | 0881              |               | 14887               |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |
|                            |            | DBS          | T0894                 | 0535                   | 3496                       | 2763                 |                                |                |                   |               | 14872               |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |
| 128                        |            | STD          | 0900                  | 0533                   | 3497                       | 2763                 | 0005817                        |                | 0943              |               | 14872               |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |
|                            |            | STD          | 1000                  | 0507                   | 3496                       | 2766                 | 0005621                        |                | 1000              |               | 14878               |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |
|                            |            | STD          | 1100                  | 0481                   | 3496                       | 2769                 | 0005421                        |                | 1056              |               | 14884               |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |
| 128                        |            | STD          | 1200                  | 0454                   | 3495                       | 2771                 | 0005216                        |                | 1109              |               | 14889               |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |
|                            |            | STD          | 1300                  | 0428                   | 3495                       | 2774                 | 0005006                        |                | 1160              |               | 14895               |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |
|                            |            | DBS          | T1386                 | 0405                   | 3494                       | 2776                 |                                |                |                   |               | 14900               |                                 |                                 |                                 |                                 |                                   |                      |                           |      |                           |



TABLE VI.—Continued

| REFERENCE<br>CITY<br>CODE   | SHIP<br>CODE   | LATITUDE<br>° '"/10 | LONGITUDE<br>° '"/10 | MARS DEN<br>SQUARE | STATION TIME<br>(GMT) |                        |   | YEAR                                   | ORIGINATOR'S      |                      | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLING | WAVE<br>OBSERVATIONS            |                                 |                                   | WEA-<br>THIR<br>CODE | CLOUD<br>CODES<br>TYPE AMT | NODC<br>STATION<br>NUMBER |     |
|-----------------------------|----------------|---------------------|----------------------|--------------------|-----------------------|------------------------|---|--|-------------------|----------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|-----------------------------------|----------------------|----------------------------|---------------------------|-----|
|                             |                |                     |                      |                    | MO                    | DAY                    | HR./10                                    |  | CRUISE<br>NO.     | STATION<br>NUMBER    |                                 |                                 | DIR.                            | HT.                             | PER.                              |                      |                            |                           | SEA |
| 311210                      | C5             | 4402 N              | 04401 W              | 149 44             | 03                    | 19                     | 130                                       | 1968                                   | 015               | 017                  | 4645                            | 14                              | 30                              | 2                               | 3                                 | X1                   | 87                         | 0017                      |     |
|                             |                |                     |                      |                    |                       |                        |   |  |                   |                      |                                 |                                 |                                 |                                 |                                   |                      |                            | SPECIAL<br>OBSERVATIONS   |     |
| WATER                       |                |                     |                      | WIND               |                       | BARO-<br>METER<br>(mm) | AIR TEMP. °C                              |  | VIS.<br>CODE      | NO.<br>OBS.<br>DEPTH |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
| COLOR<br>CODE               | TRANS.<br>UNIT | DIR.                | SPEED<br>OR<br>FORCE | DRY<br>BULB        | WET<br>BULB           |                        |   |  |                   |                      |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
| 31                          | S15            |                     | 325                  |                    |                       |                        | 128                                       | 064                                    | 7                 | 14                   |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
| MESSAGE<br>TIME<br>HR. 1/10 | CASST<br>NO.   | CARD<br>TYPE        | DEPTH (m)            | T °C               | S ‰                   | SIGMA-T                | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> | S.A.D.<br>DYN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l  | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l            | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>3</sub> -H<br>μg - ml/l | SIO <sub>4</sub> -Si<br>μg - ml/l | PH                   | σ <sub>t</sub><br>°C       |                           |     |
|                             |                | STD                 | 0000                 | 1448               | 3592                  | 2681                   | 0012427                                   | 0000                                   | 15069             |                      |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
| 130                         |                | OBS                 | 0000                 | 1448               | 35923                 | 2681                   |   |  | 15069             |                      |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
|                             |                | STD                 | 0010                 | 1452               | 3592                  | 2681                   | 0012539                                   | 0012                                   | 15072             |                      |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
|                             |                | STD                 | 0020                 | 1455               | 3592                  | 2680                   | 0012652                                   | 0025                                   | 15074             |                      |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
| 130                         |                | OBS                 | 0022                 | 1456               | 35921                 | 2680                   |   |  | 15075             |                      |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
|                             |                | STD                 | 0030                 | 1456               | 3592                  | 2679                   | 0012704                                   | 0038                                   | 15076             |                      |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
| 130                         |                | OBS                 | 0045                 | 1455               | 35918                 | 2680                   |   |  | 15078             |                      |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
|                             |                | STD                 | 0050                 | 1453               | 3592                  | 2680                   | 0012732                                   | 0063                                   | 15078             |                      |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
| 130                         |                | OBS                 | 0068                 | 1447               | 35910                 | 2681                   |   |  | 15079             |                      |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
|                             |                | STD                 | 0075                 | 1447               | 3591                  | 2681                   | 0012727                                   | 0095                                   | 15081             |                      |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
| 130                         |                | OBS                 | 0090                 | 1447               | 35907                 | 2680                   |   |  | 15083             |                      |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
|                             |                | STD                 | 0100                 | 1445               | 3590                  | 2680                   | 0012833                                   | 0127                                   | 15084             |                      |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
|                             |                | STD                 | 0125                 | 1439               | 3589                  | 2681                   | 0012856                                   | 0159                                   | 15086             |                      |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
| 130                         |                | OBS                 | 0137                 | 1434               | 35884                 | 2681                   |   |  | 15086             |                      |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
|                             |                | STD                 | 0150                 | 1426               | 3588                  | 2683                   | 0012736                                   | 0191                                   | 15086             |                      |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
| 130                         |                | OBS                 | 0178                 | 1412               | 35865                 | 2685                   |   |  | 15086             |                      |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
|                             |                | STD                 | 0200                 | 1408               | 3585                  | 2684                   | 0012731                                   | 0255                                   | 15088             |                      |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
|                             |                | STD                 | 0250                 | 1394               | 3582                  | 2685                   | 0012809                                   | 0319                                   | 15091             |                      |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
| 130                         |                | OBS                 | 0271                 | 1385               | 35806                 | 2686                   |   |  | 15091             |                      |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
|                             |                | STD                 | 0300                 | 1378               | 3579                  | 2686                   | 0012844                                   | 0383                                   | 15094             |                      |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
| 130                         |                | OBS                 | 0360                 | 1332               | 35716                 | 2690                   |   |  | 15087             |                      |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
|                             |                | STD                 | 0400                 | 1274               | 3563                  | 2695                   | 0012211                                   | 0508                                   | 15073             |                      |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
| 130                         |                | OBS                 | 0448                 | 1188               | 35510                 | 2703                   |   |  | 15050             |                      |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
|                             |                | STD                 | 0500                 | 1061               | 3532                  | 2711                   | 0010747                                   | 0623                                   | 15012             |                      |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
| 130                         |                | OBS                 | 0537                 | 0980               | 35208                 | 2717                   |   |  | 14987             |                      |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
|                             |                | STD                 | 0600                 | 0868               | 3512                  | 2728                   | 0009156                                   | 0722                                   | 14955             |                      |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
|                             |                | STD                 | 0700                 | 0718               | 3502                  | 2743                   | 0007749                                   | 0807                                   | 14913             |                      |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
| 130                         |                | OBS                 | 0725                 | 0686               | 35006                 | 2746                   |   |  | 14904             |                      |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
|                             |                | STD                 | 0800                 | 0611               | 3499                  | 2755                   | 0006583                                   | 0878                                   | 14887             |                      |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
|                             |                | STD                 | 0900                 | 0527               | 3497                  | 2764                   | 0005717                                   | 0940                                   | 14869             |                      |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
| 130                         |                | OBS                 | 0919                 | 0513               | 34964                 | 2765                   |   |  | 14867             |                      |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
|                             |                | STD                 | 1000                 | 0495               | 3495                  | 2766                   | 0005553                                   | 0996                                   | 14873             |                      |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
|                             |                | STD                 | 1100                 | 0472               | 3494                  | 2768                   | 0005439                                   | 1051                                   | 14880             |                      |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
|                             |                | STD                 | 1200                 | 0449               | 3493                  | 2770                   | 0005318                                   | 1105                                   | 14887             |                      |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
|                             |                | STD                 | 1300                 | 0426               | 3493                  | 2772                   | 0005121                                   | 1157                                   | 14894             |                      |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
|                             |                | STD                 | 1400                 | 0404               | 3493                  | 2775                   | 0004917                                   | 1207                                   | 14902             |                      |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |
| 130                         |                | OBS                 | 1416                 | 0400               | 34928                 | 2775                   |   |  | 14903             |                      |                                 |                                 |                                 |                                 |                                   |                      |                            |                           |     |



TABLE VII.—Observed and interpolated oceanographic data for stations taken by USCGC ABSECON at Ocean Station DELTA, 20 March–8 April 1968, prepared from NODC listing No. 31-1238 AZ.

| REFERENCE                   |             | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10    | MARSSEN<br>SQUARE | STATION TIME<br>(GMT) |                                |                                       | YEAR              | ORIGINATOR'S        |                                 | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>S'PL'S   | WAVE<br>OBSERVATIONS            |                                  |     | WEA-<br>THER<br>CODE | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |      |
|-----------------------------|-------------|--------------|--------------------|------------------------|-------------------|-----------------------|--------------------------------|---------------------------------------|-------------------|---------------------|---------------------------------|-----------------------|---------------------------------|---------------------------------|----------------------------------|-----|----------------------|----------------|---------------------------|------|
| CITY<br>CODE                | ID.<br>NO.  |              |                    |                        |                   | 10'                   | 1"                             | MO                                    |                   | DAY                 | HR.1/10                         |                       |                                 | CRUISE<br>NO.                   | STATION<br>NUMBER                | DR. |                      |                |                           | HGT  |
| 311238                      | AZ          |              | 4357 N             | 04101 W                | 149 31            | 03                    | 20                             | 134                                   | 1968              | D16                 | 001                             | 4572                  | 14                              | 34                              |                                  | 3   | X1                   | 8              | 7                         | 0001 |
|                             |             |              |                    |                        |                   |                       |                                |                                       |                   |                     |                                 |                       |                                 |                                 |                                  |     |                      |                |                           |      |
|                             |             |              |                    | WATER<br>COLOR<br>CODE | WIND              |                       | BARO-<br>METER<br>(mb)         | AIR TEMP. °C                          |                   | NO. OBS.<br>DEPTHS  | SPECIAL<br>OBSERVATIONS         |                       |                                 |                                 |                                  |     |                      |                |                           |      |
|                             |             |              |                    |                        | TRANS<br>(m)      | DIR.                  |                                | SPEED<br>OF<br>FORCE                  | DRY<br>BULB       |                     | WET<br>BULB                     | VIL<br>CODE           |                                 |                                 |                                  |     |                      |                |                           |      |
|                             |             |              |                    |                        | 26                | S12                   | 301                            | 116                                   | 094               | 7                   | 14                              |                       |                                 |                                 |                                  |     |                      |                |                           |      |
| MESSAGE<br>TIME<br>HR. 1/10 | CAST<br>NO. | CARD<br>TYPE | DEPTH (m)          | T °C                   | S ‰               | SIGMA-T               | SPECIFIC VOLUME<br>ANOMALY-30° | S Δ D<br>DYN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - <1/1 | TOTAL-P<br>μg - <1/1  | NO <sub>3</sub> -N<br>μg - <1/1 | NO <sub>3</sub> -N<br>μg - <1/1 | SiO <sub>4</sub> -S<br>μg - <1/1 | pH  | S<br>CODE            |                |                           |      |
|                             |             | STD          | 0000               | 1475                   | 3597              | 2679                  | 0012649                        | 0000                                  | 15078             |                     |                                 |                       |                                 |                                 |                                  |     |                      |                |                           |      |
| 134                         | 085         | 0000         | 1475               | 35969                  | 2679              |                       |                                |                                       | 15078             |                     |                                 |                       |                                 |                                 |                                  |     |                      |                |                           |      |
|                             | STD         | 0010         | 1475               | 3597                   | 2679              | 0012652               | 0013                           | 15080                                 |                   |                     |                                 |                       |                                 |                                 |                                  |     |                      |                |                           |      |
|                             | STD         | 0020         | 1476               | 3598                   | 2680              | 0012655               | 0025                           | 15082                                 |                   |                     |                                 |                       |                                 |                                 |                                  |     |                      |                |                           |      |
| 134                         | 085         | 0023         | 1476               | 35980                  | 2680              |                       |                                | 15082                                 |                   |                     |                                 |                       |                                 |                                 |                                  |     |                      |                |                           |      |
|                             | STD         | 0030         | 1476               | 3597                   | 2679              | 0012754               | 0038                           | 15083                                 |                   |                     |                                 |                       |                                 |                                 |                                  |     |                      |                |                           |      |
| 134                         | 085         | 0048         | 1476               | 35960                  | 2678              |                       |                                | 15086                                 |                   |                     |                                 |                       |                                 |                                 |                                  |     |                      |                |                           |      |
|                             | STD         | 0050         | 1476               | 3596                   | 2678              | 0012881               | 0064                           | 15086                                 |                   |                     |                                 |                       |                                 |                                 |                                  |     |                      |                |                           |      |
| 134                         | 085         | 0072         | 1475               | 35972                  | 2679              |                       |                                | 15090                                 |                   |                     |                                 |                       |                                 |                                 |                                  |     |                      |                |                           |      |
|                             | STD         | 0075         | 1475               | 3597                   | 2679              | 0012870               | 0096                           | 15090                                 |                   |                     |                                 |                       |                                 |                                 |                                  |     |                      |                |                           |      |
| 134                         | 085         | 0096         | 1474               | 35959                  | 2679              |                       |                                | 15093                                 |                   |                     |                                 |                       |                                 |                                 |                                  |     |                      |                |                           |      |
|                             | STD         | 0100         | 1474               | 3596                   | 2679              | 0013008               | 0128                           | 15094                                 |                   |                     |                                 |                       |                                 |                                 |                                  |     |                      |                |                           |      |
|                             | STD         | 0125         | 1475               | 3596                   | 2678              | 0013094               | 0161                           | 15098                                 |                   |                     |                                 |                       |                                 |                                 |                                  |     |                      |                |                           |      |
| 134                         | 085         | 0143         | 1475               | 35959                  | 2678              |                       |                                | 15101                                 |                   |                     |                                 |                       |                                 |                                 |                                  |     |                      |                |                           |      |
|                             | STD         | 0150         | 1475               | 3596                   | 2678              | 0013170               | 0194                           | 15102                                 |                   |                     |                                 |                       |                                 |                                 |                                  |     |                      |                |                           |      |
| 134                         | 085         | T0191        | 1475               | 35964                  | 2679              |                       |                                | 15109                                 |                   |                     |                                 |                       |                                 |                                 |                                  |     |                      |                |                           |      |
|                             | STD         | 0200         | 1473               | 3596                   | 2679              | 0013267               | 0260                           | 15110                                 |                   |                     |                                 |                       |                                 |                                 |                                  |     |                      |                |                           |      |
|                             | STD         | 0250         | 1460               | 3594                   | 2680              | 0013278               | 0326                           | 15114                                 |                   |                     |                                 |                       |                                 |                                 |                                  |     |                      |                |                           |      |
| 134                         | 085         | 0283         | 1452               | 35933                  | 2681              |                       |                                | 15116                                 |                   |                     |                                 |                       |                                 |                                 |                                  |     |                      |                |                           |      |
|                             | STD         | 0300         | 1431               | 3589                   | 2683              | 0013206               | 0392                           | 15112                                 |                   |                     |                                 |                       |                                 |                                 |                                  |     |                      |                |                           |      |
| 134                         | 085         | T0372        | 1332               | 35707                  | 2689              |                       |                                | 15089                                 |                   |                     |                                 |                       |                                 |                                 |                                  |     |                      |                |                           |      |
|                             | STD         | 0400         | 1294               | 3565                   | 2693              | 0012458               | 0521                           | 15080                                 |                   |                     |                                 |                       |                                 |                                 |                                  |     |                      |                |                           |      |
| 134                         | 085         | 0462         | 1188               | 35491                  | 2701              |                       |                                | 15053                                 |                   |                     |                                 |                       |                                 |                                 |                                  |     |                      |                |                           |      |
|                             | STD         | 0500         | 1093               | 3535                   | 2708              | 0011101               | 0638                           | 15024                                 |                   |                     |                                 |                       |                                 |                                 |                                  |     |                      |                |                           |      |
| 134                         | 085         | T0552        | 0976               | 35201                  | 2717              |                       |                                | 14988                                 |                   |                     |                                 |                       |                                 |                                 |                                  |     |                      |                |                           |      |
|                             | STD         | 0600         | 0883               | 3512                   | 2726              | 0009398               | 0741                           | 14961                                 |                   |                     |                                 |                       |                                 |                                 |                                  |     |                      |                |                           |      |
|                             | STD         | 0700         | 0721               | 3500                   | 2741              | 0007941               | 0828                           | 14914                                 |                   |                     |                                 |                       |                                 |                                 |                                  |     |                      |                |                           |      |
| 134                         | 085         | 0739         | 0669               | 34974                  | 2746              |                       |                                | 14900                                 |                   |                     |                                 |                       |                                 |                                 |                                  |     |                      |                |                           |      |
|                             | STD         | 0800         | 0600               | 3497                   | 2755              | 0006585               | 0900                           | 14882                                 |                   |                     |                                 |                       |                                 |                                 |                                  |     |                      |                |                           |      |
|                             | STD         | 0900         | 0521               | 3496                   | 2764              | 0005704               | 0962                           | 14867                                 |                   |                     |                                 |                       |                                 |                                 |                                  |     |                      |                |                           |      |
| 134                         | 085         | T0928        | 0506               | 34959                  | 2766              |                       |                                | 14865                                 |                   |                     |                                 |                       |                                 |                                 |                                  |     |                      |                |                           |      |
| 134                         | 085         | 14180        | 0397               | 34925                  | 27750             |                       |                                |                                       |                   |                     |                                 |                       |                                 |                                 |                                  |     |                      |                |                           |      |

| REFERENCE<br>CITY<br>CODE   | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MARSSEN<br>SQUARE      | STATION TIME<br>(GMT) |         |                                | YEAR                                  | ORIGINATOR'S      |                     | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>S'PL'S | WAVE<br>OBSERVATIONS            |                                 |                                   | WEA-<br>THER<br>CODE | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |
|-----------------------------|--------------|--------------------|---------------------|------------------------|-----------------------|---------|--------------------------------|---------------------------------------|-------------------|---------------------|---------------------------------|-------------------------------|---------------------------------|---------------------------------|-----------------------------------|----------------------|----------------|---------------------------|
|                             |              |                    |                     |                        | 10'                   | 1"      | MO DAY HR.1/10                 |                                       | CRUISE<br>NO.     | STATION<br>NUMBER   |                                 |                               | DR.                             | HGT                             | PER                               |                      |                |                           |
| 311238                      | AZ           | 4416 N             | 04105 W             | 149 41                 | 03 27                 | 173     | 1968                           | D16                                   | 002               | 4572                | 12                              | 34                            | 4                               | 2                               | X2                                | 6 8                  | 0002           |                           |
|                             |              |                    |                     |                        |                       |         |                                |                                       |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |
|                             |              |                    |                     | WATER<br>COLOR<br>CODE | WIND                  |         | BARO-<br>METER<br>(mm)         | AIR TEMP. °C                          |                   | NO. OBS.<br>DEPTHS  | SPECIAL<br>OBSERVATIONS         |                               |                                 |                                 |                                   |                      |                |                           |
|                             |              |                    |                     |                        | TRANS<br>(m)          | DIR.    |                                | SPEED<br>OF<br>FORCE                  | DRY<br>BULB       |                     | WET<br>BULB                     | VIL<br>CODE                   |                                 |                                 |                                   |                      |                |                           |
|                             |              |                    |                     |                        | 34                    | S15     | 340                            | 061                                   | 028               | 7                   | 14                              |                               |                                 |                                 |                                   |                      |                |                           |
| MESSAGE<br>TIME<br>HR. 1/10 | CAST<br>NO.  | CARD<br>TYPE       | DEPTH (m)           | T °C                   | S ‰                   | SIGMA-T | SPECIFIC VOLUME<br>ANOMALY-30° | S Δ D<br>DYN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - <1/1 | TOTAL-P<br>μg - <1/1          | NO <sub>3</sub> -N<br>μg - <1/1 | NO <sub>3</sub> -N<br>μg - <1/1 | SiO <sub>4</sub> -Si<br>μg - <1/1 | pH                   | S<br>CODE      |                           |
|                             |              | STD                | 0000                | 1466                   | 3554                  | 2679    | 0012652                        | 0000                                  | 15075             |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |
| 173                         | 085          | 0000               | 1466                | 35943                  | 2679                  |         |                                |                                       | 15075             |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |
|                             | STD          | 0010               | 1466                | 3553                   | 2678                  | 0012757 | 0013                           | 15076                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |
|                             | STD          | 0020               | 1467                | 3593                   | 2677                  | 0012863 | 0026                           | 15078                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |
| 173                         | 085          | 0023               | 1467                | 35922                  | 2677                  |         |                                | 15079                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |
|                             | STD          | 0030               | 1469                | 3593                   | 2677                  | 0012901 | 0038                           | 15080                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |
| 173                         | 085          | 0045               | 1470                | 35933                  | 2677                  |         |                                | 15083                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |
|                             | STD          | 0050               | 1468                | 3554                   | 2678                  | 0012904 | 0064                           | 15083                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |
| 173                         | 085          | 0067               | 1465                | 35942                  | 2679                  |         |                                | 15085                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |
|                             | STD          | 0075               | 1465                | 3595                   | 2680                  | 0012814 | 0096                           | 15087                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |
| 173                         | 085          | 0091               | 1466                | 35558                  | 2680                  |         |                                | 15090                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |
|                             | STD          | 0100               | 1466                | 3596                   | 2680                  | 0012850 | 0128                           | 15091                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |
|                             | STD          | 0125               | 1467                | 3596                   | 2680                  | 0012950 | 0161                           | 15096                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |
| 173                         | 085          | 0138               | 1467                | 35955                  | 2680                  |         |                                | 15098                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |
|                             | STD          | 0150               | 1467                | 3595                   | 2679                  | 0013076 | 0193                           | 15100                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |
| 173                         | 085          | T0184              | 1467                | 35948                  | 2679                  |         |                                | 15105                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |
|                             | STD          | 0200               | 1466                | 3595                   | 2679                  | 0013219 | 0259                           | 15108                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |
|                             | STD          | 0250               | 1463                | 3595                   | 2680                  | 0013289 | 0325                           | 15115                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |
| 173                         | 085          | 0264               | 1462                | 35950                  | 2680                  |         |                                | 15117                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |
|                             | STD          | 0300               | 1450                | 3586                   | 2676                  | 0013821 | 0393                           | 15118                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |
| 173                         | 085          | T0344              | 1415                |                        |                       |         |                                |                                       |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |
|                             | STD          | 0400               | 1329                | 3558                   | 2680                  | 0013663 | 0530                           | 15091                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |
| 173                         | 085          | 0427               | 1286                | 35493                  | 2682                  |         |                                | 15080                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |
|                             | STD          | 0500               | 1169                | 3522                   | 2684                  | 0013447 | 0666                           | 15049                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |
| 173                         | 085          | T0505              | 1160                | 35210                  | 2685                  |         |                                | 15046                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |
|                             | STD          | 0600               | 0929                | 3503                   | 2711                  | 0010814 | 0787                           | 14977                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |
| 173                         | 085          | 0653               | 0825                | 34970                  | 2723                  |         |                                | 14946                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |
|                             | STD          | 0700               | 0756                | 3497                   | 2734                  | 0008686 | 0885                           | 14927                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |
|                             | STD          | 0800               | 0632                | 3497                   | 2751                  | 0007017 | 0963                           | 14895                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |
| 173                         | 085          | T0805              | 0627                | 34971                  | 2752                  |         |                                | 14894                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |
|                             | STD          | 0900               | 0585                | 3497                   | 2757                  | 0006510 | 1031                           | 14893                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |
|                             | STD          | 1000               | 0542                | 3496                   | 2762                  | 0006110 | 1094                           | 14892                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |
|                             | STD          | 1100               | 0498                | 3495                   | 2766                  | 0005710 | 1153                           | 14891                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |
|                             | STD          | 1200               | 0454                | 3494                   | 2770                  | 0005310 | 1208                           | 14889                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |
| 173                         | 085          | T1230              | 0441                | 34937                  | 2771                  |         |                                | 14889                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |







TABLE VII.—Continued

| REFERENCE                  |              | SHIP<br>CODE | LATITUDE<br>° 1/10   | LONGITUDE<br>° 1/10    | MARDEN<br>SQUARE | STATION TIME<br>(GMT) |                                |                                       |                         | YEAR                | ORIGINATOR'S                    |                      | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLES  | WAVE<br>OBSERVATIONS              |                   |          |     | WEA-<br>THER<br>CODE | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |
|----------------------------|--------------|--------------|----------------------|------------------------|------------------|-----------------------|--------------------------------|---------------------------------------|-------------------------|---------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|-------------------|----------|-----|----------------------|----------------|---------------------------|
| CST<br>CODE                | ID.<br>NO.   |              |                      |                        |                  | 10"                   | 1"                             | MO                                    | DA                      |                     | HR                              | 1/10                 |                                 |                                 | CRUISE<br>NO.                     | STATION<br>NUMBER | DIR.     | HGT |                      |                |                           |
| 311233                     | A2           |              | 4353 N               | 04051 W                | 149 30           | 04 02 207             | 1968                           | 016                                   | 005                     |                     |                                 | 4572                 | 12                              | 27                              |                                   |                   | 4        | X1  | 8 5                  |                | 0005                      |
|                            |              |              |                      |                        |                  |                       |                                |                                       |                         |                     |                                 |                      |                                 |                                 |                                   |                   |          |     |                      |                |                           |
|                            |              | WATER        |                      | WIND                   |                  | AIR TEMP. °C          |                                | NO.<br>OBS.<br>DEPTHS                 | SPECIAL<br>OBSERVATIONS |                     |                                 |                      |                                 |                                 |                                   |                   |          |     |                      |                |                           |
| COLOUR<br>CODE             | TRANSP.<br>M | DIR.         | SPEED<br>OF<br>FORCE | BARO-<br>METER<br>(mb) | DRI<br>BULB      | WET<br>BULB           | VIL<br>CODE                    |                                       |                         |                     |                                 |                      |                                 |                                 |                                   |                   |          |     |                      |                |                           |
|                            |              |              | 29                   | 515                    | 132              | 117                   | 083                            | 7                                     | 14                      |                     |                                 |                      |                                 |                                 |                                   |                   |          |     |                      |                |                           |
| MESSAGE<br>TIME<br>HR 1/10 | CAS<br>NO.   | CARD<br>TYPE | DEPTH (m)            | T °C                   | S ‰              | SIGMA-T               | SPECIFIC VOLUME<br>ANOMALY-20° | Σ Δ D<br>DYN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY       | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>2</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH                | S<br>CTD |     |                      |                |                           |
| 207                        |              | STD          | 0000                 | 1514                   | 3604             | 2676                  | 0012919                        | 0000                                  | 15091                   |                     |                                 |                      |                                 |                                 |                                   |                   |          |     |                      |                |                           |
|                            |              | D85          | 0000                 | 1514                   | 36044            | 2676                  |                                |                                       | 15091                   |                     |                                 |                      |                                 |                                 |                                   |                   |          |     |                      |                |                           |
|                            |              | STD          | 0010                 | 1514                   | 3604             | 2676                  | 0012980                        | 0013                                  | 15093                   |                     |                                 |                      |                                 |                                 |                                   |                   |          |     |                      |                |                           |
| 207                        |              | STD          | 0020                 | 1514                   | 3604             | 2676                  | 0013011                        | 0026                                  | 15094                   |                     |                                 |                      |                                 |                                 |                                   |                   |          |     |                      |                |                           |
|                            |              | D85          | 0022                 | 1514                   | 36038            | 2676                  |                                |                                       | 15095                   |                     |                                 |                      |                                 |                                 |                                   |                   |          |     |                      |                |                           |
|                            |              | STD          | 0030                 | 1516                   | 3604             | 2675                  | 0013088                        | 0039                                  | 15096                   |                     |                                 |                      |                                 |                                 |                                   |                   |          |     |                      |                |                           |
| 207                        |              | D85          | 0044                 | 1518                   | 36039            | 2675                  |                                |                                       | 15100                   |                     |                                 |                      |                                 |                                 |                                   |                   |          |     |                      |                |                           |
|                            |              | STD          | 0050                 | 1512                   | 3602             | 2675                  | 0013207                        | 0065                                  | 15098                   |                     |                                 |                      |                                 |                                 |                                   |                   |          |     |                      |                |                           |
|                            |              | D85          | 0067                 | 1498                   | 35985            | 2675                  |                                |                                       | 15096                   |                     |                                 |                      |                                 |                                 |                                   |                   |          |     |                      |                |                           |
| 207                        |              | STD          | 0075                 | 1495                   | 3597             | 2675                  | 0013290                        | 0096                                  | 15097                   |                     |                                 |                      |                                 |                                 |                                   |                   |          |     |                      |                |                           |
|                            |              | D85          | 0088                 | 1490                   | 35960            | 2675                  |                                |                                       | 15097                   |                     |                                 |                      |                                 |                                 |                                   |                   |          |     |                      |                |                           |
|                            |              | STD          | 0100                 | 1486                   | 3595             | 2675                  | 0013308                        | 0132                                  | 15098                   |                     |                                 |                      |                                 |                                 |                                   |                   |          |     |                      |                |                           |
| 207                        |              | STD          | 0125                 | 1478                   | 3594             | 2676                  | 0013326                        | 0165                                  | 15099                   |                     |                                 |                      |                                 |                                 |                                   |                   |          |     |                      |                |                           |
|                            |              | D85          | 0130                 | 1476                   | 35933            | 2676                  |                                |                                       | 15099                   |                     |                                 |                      |                                 |                                 |                                   |                   |          |     |                      |                |                           |
|                            |              | STD          | 0150                 | 1402                   | 3575             | 2678                  | 0013194                        | 0198                                  | 15076                   |                     |                                 |                      |                                 |                                 |                                   |                   |          |     |                      |                |                           |
| 207                        |              | D85          | T0171                | 1343                   | 35601            | 2679                  |                                |                                       | 15059                   |                     |                                 |                      |                                 |                                 |                                   |                   |          |     |                      |                |                           |
|                            |              | STD          | 0200                 | 1325                   | 3558             | 2681                  | 0013011                        | 0264                                  | 15057                   |                     |                                 |                      |                                 |                                 |                                   |                   |          |     |                      |                |                           |
|                            |              | STD          | 0250                 | 1294                   | 3555             | 2685                  | 0012761                        | 0328                                  | 15054                   |                     |                                 |                      |                                 |                                 |                                   |                   |          |     |                      |                |                           |
| 207                        |              | D85          | 0251                 | 1293                   | 35551            | 2685                  |                                |                                       | 15054                   |                     |                                 |                      |                                 |                                 |                                   |                   |          |     |                      |                |                           |
|                            |              | STD          | 0300                 | 1305                   | 3566             | 2691                  | 0012329                        | 0391                                  | 15068                   |                     |                                 |                      |                                 |                                 |                                   |                   |          |     |                      |                |                           |
|                            |              | D85          | T0329                | 1312                   | 35692            | 2692                  |                                |                                       | 15075                   |                     |                                 |                      |                                 |                                 |                                   |                   |          |     |                      |                |                           |
| 207                        |              | STD          | 0400                 | 1264                   | 3562             | 2696                  | 0012088                        | 0513                                  | 15070                   |                     |                                 |                      |                                 |                                 |                                   |                   |          |     |                      |                |                           |
|                            |              | D85          | 0415                 | 1246                   | 35597            | 2698                  |                                |                                       | 15066                   |                     |                                 |                      |                                 |                                 |                                   |                   |          |     |                      |                |                           |
|                            |              | D85          | T0499                | 1092                   | 35376            | 2710                  |                                |                                       | 15024                   |                     |                                 |                      |                                 |                                 |                                   |                   |          |     |                      |                |                           |
| 207                        |              | STD          | 0500                 | 1090                   | 3537             | 2710                  | 0010900                        | 0628                                  | 15023                   |                     |                                 |                      |                                 |                                 |                                   |                   |          |     |                      |                |                           |
|                            |              | STD          | 0600                 | 0898                   | 3516             | 2727                  | 0009349                        | 0729                                  | 14967                   |                     |                                 |                      |                                 |                                 |                                   |                   |          |     |                      |                |                           |
|                            |              | D85          | 0643                 | 0821                   | 35085            | 2733                  |                                |                                       | 14944                   |                     |                                 |                      |                                 |                                 |                                   |                   |          |     |                      |                |                           |
| 207                        |              | STD          | 0700                 | 0716                   | 3503             | 2744                  | 0007646                        | 0814                                  | 14912                   |                     |                                 |                      |                                 |                                 |                                   |                   |          |     |                      |                |                           |
|                            |              | D85          | T0778                | 0593                   | 34964            | 2755                  |                                |                                       | 14878                   |                     |                                 |                      |                                 |                                 |                                   |                   |          |     |                      |                |                           |
|                            |              | STD          | 0800                 | 0589                   | 3496             | 2756                  | 0006470                        | 0885                                  | 14876                   |                     |                                 |                      |                                 |                                 |                                   |                   |          |     |                      |                |                           |
| 207                        |              | STD          | 0900                 | 0548                   | 3496             | 2761                  | 0006045                        | 0947                                  | 14878                   |                     |                                 |                      |                                 |                                 |                                   |                   |          |     |                      |                |                           |
|                            |              | STD          | 1000                 | 0507                   | 3496             | 2766                  | 0005618                        | 1005                                  | 14878                   |                     |                                 |                      |                                 |                                 |                                   |                   |          |     |                      |                |                           |
|                            |              | STD          | 1100                 | 0466                   | 3496             | 2771                  | 0005198                        | 1060                                  | 14878                   |                     |                                 |                      |                                 |                                 |                                   |                   |          |     |                      |                |                           |
| 207                        |              | D85          | T1172                | 0437                   | 34963            | 2774                  |                                |                                       | 14878                   |                     |                                 |                      |                                 |                                 |                                   |                   |          |     |                      |                |                           |

| REFERENCE<br>CITY<br>CODE  | SHIP<br>ID.<br>NO. | SNIP<br>CODE | LATITUDE<br>° 1/10   | LONGITUDE<br>° 1/10    | MARDEN<br>SQUARE | STATION TIME<br>(GMT) | YEAR                           | ORIGINATOR'S                          |                         | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPLES  | WAVE<br>OBSERVATIONS |                                 |                                 |                                   | WEA-<br>THER<br>CODE | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |
|----------------------------|--------------------|--------------|----------------------|------------------------|------------------|-----------------------|--------------------------------|---------------------------------------|-------------------------|-----------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|----------------------|----------------|---------------------------|
|                            |                    |              |                      |                        |                  |                       |                                | CRUISE<br>NO.                         | STATION<br>NUMBER       |                       |                                 | DIR.                 | HGT                             | PER                             | SEA                               |                      |                |                           |
|                            |                    |              |                      |                        |                  |                       |                                |                                       |                         |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
| 311238                     | AZ                 | 4355 N       | 040525 W             | 149 30                 | 04 03 216        | 1968                  | 016                            | 006                                   | 4572                    | 12                    | 32                              |                      |                                 | 4                               | X1                                | 8 6                  | 0006           |                           |
|                            |                    |              |                      |                        |                  |                       |                                |                                       |                         |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
|                            |                    | WATER        |                      | WIND                   |                  | AIR TEMP. °C          |                                | NO.<br>OBS.<br>DEPTHS                 | SPECIAL<br>OBSERVATIONS |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
| COLOUR<br>CODE             | TRANSP.            | DIR.         | SPEED<br>OF<br>FORCE | BARO-<br>METER<br>(mb) | DRY<br>BULB      | WET<br>BULB           | VIS<br>CODE                    |                                       |                         |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
|                            |                    |              | 32                   | 518                    | 190              | 116                   | 100                            | 7                                     | 14                      |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
| MESSAGE<br>TIME<br>HR 1/10 | CAS<br>NO.         | CARD<br>TYPE | DEPTH (m)            | T °C                   | S ‰              | SIGMA-T               | SPECIFIC VOLUME<br>ANOMALY-20° | Σ Δ D<br>DYN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY       | O <sub>2</sub> ml/l   | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>2</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH                   | S<br>CTD       |                           |
| 216                        |                    | STD          | 0000                 | 1496                   | 3601             | 2677                  | 0012810                        | 0000                                  | 15085                   |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
|                            |                    | D85          | 0000                 | 1496                   | 36007            | 2677                  |                                |                                       | 15085                   |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
|                            |                    | STD          | 0010                 | 1488                   | 3598             | 2677                  | 0012871                        | 0013                                  | 15084                   |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
| 216                        |                    | STD          | 0020                 | 1481                   | 3595             | 2676                  | 0012974                        | 0026                                  | 15083                   |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
|                            |                    | D85          | 0024                 | 1478                   | 35939            | 2676                  |                                |                                       | 15082                   |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
|                            |                    | STD          | 0030                 | 1476                   | 3593             | 2676                  | 0013046                        | 0039                                  | 15083                   |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
| 216                        |                    | D85          | 0045                 | 1466                   | 35904            | 2676                  |                                |                                       | 15082                   |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
|                            |                    | STD          | 0050                 | 1459                   | 3589             | 2677                  | 0013046                        | 0065                                  | 15080                   |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
|                            |                    | D85          | 0068                 | 1442                   | 35859            | 2678                  |                                |                                       | 15077                   |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
| 216                        |                    | STD          | 0075                 | 1440                   | 3585             | 2678                  | 0013021                        | 0097                                  | 15078                   |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
|                            |                    | D85          | 0090                 | 1436                   | 35845            | 2678                  |                                |                                       | 15079                   |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
|                            |                    | STD          | 0100                 | 1435                   | 3584             | 2678                  | 0013065                        | 0130                                  | 15080                   |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
| 216                        |                    | STD          | 0125                 | 1432                   | 3584             | 2679                  | 0013077                        | 0163                                  | 15083                   |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
|                            |                    | D85          | 0136                 | 1431                   | 35834            | 2678                  |                                |                                       | 15084                   |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
|                            |                    | STD          | 0150                 | 1430                   | 3584             | 2679                  | 0013140                        | 0196                                  | 15086                   |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
| 216                        |                    | D85          | T0180                | 1427                   | 35837            | 2679                  |                                |                                       | 15090                   |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
|                            |                    | STD          | 0200                 | 1397                   | 3577             | 2681                  | 0013090                        | 0261                                  | 15083                   |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
|                            |                    | STD          | 0250                 | 1323                   | 3563             | 2685                  | 0012768                        | 0326                                  | 15065                   |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
| 216                        |                    | D85          | 0269                 | 1296                   | 35586            | 2687                  |                                |                                       | 15059                   |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
|                            |                    | STD          | 0300                 | 1244                   | 3550             | 2691                  | 0012316                        | 0388                                  | 15045                   |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
|                            |                    | D85          | 0357                 | 1176                   | 35405            | 2697                  |                                |                                       | 15030                   |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
| 216                        |                    | STD          | 0400                 | 1172                   | 3541             | 2698                  | 0011848                        | 0509                                  | 15036                   |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
|                            |                    | D85          | 0444                 | 1138                   | 35421            | 2705                  |                                |                                       | 15031                   |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
|                            |                    | STD          | 0500                 | 1037                   | 3528             | 2713                  | 0010617                        | 0622                                  | 15003                   |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
| 216                        |                    | D85          | T0529                | 0987                   | 35222            | 2717                  |                                |                                       | 14989                   |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
|                            |                    | STD          | 0600                 | 0859                   | 3511             | 2725                  | 0009085                        | 0720                                  | 14952                   |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
|                            |                    | D85          | 0694                 | 0722                   | 35011            | 2742                  |                                |                                       | 14914                   |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
| 216                        |                    | STD          | 0700                 | 0716                   | 3501             | 2742                  | 0007793                        | 0804                                  | 14912                   |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
|                            |                    | STD          | 0800                 | 0621                   | 3499             | 2754                  | 0006722                        | 0877                                  | 14891                   |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
|                            |                    | D85          | 0855                 | 0577                   | 34986            | 2759                  |                                |                                       | 14882                   |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
| 216                        |                    | STD          | 0900                 | 0545                   | 3498             | 2763                  | 0005855                        | 0940                                  | 14877                   |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
|                            |                    | STD          | 1000                 | 0489                   | 3498             | 2769                  | 0005259                        | 0996                                  | 14871                   |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
|                            |                    | STD          | 1100                 | 0452                   | 3498             | 2773                  | 0004915                        | 1046                                  | 14872                   |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
|                            |                    | STD          | 1200                 | 0435                   | 3497             | 2775                  | 0004819                        | 1095                                  | 14882                   |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |
|                            |                    | D85          | T1237                | 0433                   | 34971            | 2775                  |                                |                                       | 14887                   |                       |                                 |                      |                                 |                                 |                                   |                      |                |                           |



TABLE VII.—Continued

| REFERENCE | SHIP | LATITUDE | LONGITUDE | WMO   | MARSSEN |         | STATION TIME    |        | YEAR              | ORIGINATOR'S |         | DEPTH               | MAX.               | WAVE       |                    |                    | WEA-                | CLOUD | NOOC    |
|-----------|------|----------|-----------|-------|---------|---------|-----------------|--------|-------------------|--------------|---------|---------------------|--------------------|------------|--------------------|--------------------|---------------------|-------|---------|
| CRUISE    | NO.  | ° 1/10   | ° 1/10    | NO.   | SQUARE  |         | IGMT            |        |                   | CRUISE       | STATION | TO                  | DEPTH              | DIR        | HGT                | PER                | TH                  | TYPE  | STATION |
| NO.       |      |          |           |       |         |         |                 |        |                   | NO.          | NUMBER  | BOTTOM              | OF                 |            |                    |                    |                     | AMT   | NUMBER  |
| 311235    | AZ   | 4349 N   | 04048 W   | 149   | 30      | 04      | 04              | 1968   | 1968              | 016          | 007     | 4572                | 16                 | 25         |                    |                    | 3                   | X1    | 0007    |
|           |      |          |           |       |         |         |                 |        |                   |              |         |                     |                    |            |                    |                    |                     |       |         |
|           |      |          |           | WATER |         | WIND    |                 | BARO-  |                   | AIR TEMP. °C |         | VIS                 | NO.                | SPECIAL    |                    |                    |                     |       |         |
|           |      |          |           | COLOR | TRANS.  | DIR.    | SPEED           | METER  | DRY               | WET          |         |                     |                    |            |                    |                    |                     |       |         |
|           |      |          |           | CODE  | UNIT    |         | OR              | (mmHg) | RULE              | RULE         |         | CODE                | OBS.               | DEPTHS     | OBSERVATIONS       |                    |                     |       |         |
|           |      |          |           |       |         |         | 27              | 518    | 220               | 111          | 078     | 7                   | 14                 |            |                    |                    |                     |       |         |
| MESSAGE   | CAS- | CARD     | DEPTH (m) | T °C  | S ‰     | SIGMA-T | SPECIFIC VOLUME |        | Σ Δ D             | SOUND        |         |                     |                    |            |                    |                    |                     |       |         |
| TIME      | NO.  | TYPE     |           |       |         |         | ANOMALY-318°    |        | DTN. M.           | VELOCITY     |         | O <sub>2</sub> ml/l | PO <sub>2</sub> -P | TOTAL-P    | NO <sub>2</sub> -N | NO <sub>3</sub> -N | SiO <sub>2</sub> -S | pH    | T °C    |
| HR 1/10   |      |          |           |       |         |         |                 |        | x 10 <sup>3</sup> |              |         |                     | pg ± 0.1/1         | pg ± 0.1/1 | pg ± 0.01/1        | pg ± 0.01/1        | pg ± 0.01/1         |       |         |
|           |      | STD      | 0000      | 1450  | 3589    | 2678    | 0012739         |        | 0000              | 15069        |         |                     |                    |            |                    |                    |                     |       |         |
| 198       |      | 085      | 0000      | 1450  | 35886   | 2678    |                 |        |                   | 15069        |         |                     |                    |            |                    |                    |                     |       |         |
|           |      | STD      | 0010      | 1450  | 3588    | 2678    | 0012821         |        | 0013              | 15071        |         |                     |                    |            |                    |                    |                     |       |         |
|           |      | STD      | 0020      | 1451  | 3588    | 2678    | 0012857         |        | 0026              | 15072        |         |                     |                    |            |                    |                    |                     |       |         |
| 198       |      | 085      | 0027      | 1451  | 35874   | 2677    |                 |        |                   | 15074        |         |                     |                    |            |                    |                    |                     |       |         |
|           |      | STD      | 0030      | 1451  | 3588    | 2677    | 0012932         |        | 0039              | 15074        |         |                     |                    |            |                    |                    |                     |       |         |
|           |      | STD      | 0050      | 1452  | 3588    | 2677    | 0012972         |        | 0064              | 15078        |         |                     |                    |            |                    |                    |                     |       |         |
| 198       |      | 085      | 0052      | 1452  | 35680   | 2677    |                 |        |                   | 15078        |         |                     |                    |            |                    |                    |                     |       |         |
|           |      | STD      | 0075      | 1452  | 3568    | 2678    | 0013027         |        | 0097              | 15082        |         |                     |                    |            |                    |                    |                     |       |         |
| 198       |      | 085      | 0079      | 1452  | 35884   | 2678    |                 |        |                   | 15082        |         |                     |                    |            |                    |                    |                     |       |         |
|           |      | STD      | 0100      | 1449  | 3589    | 2679    | 0012995         |        | 0129              | 15085        |         |                     |                    |            |                    |                    |                     |       |         |
| 198       |      | 085      | 0105      | 1448  | 35890   | 2679    |                 |        |                   | 15086        |         |                     |                    |            |                    |                    |                     |       |         |
|           |      | STD      | 0125      | 1448  | 3590    | 2679    | 0012993         |        | 0162              | 15089        |         |                     |                    |            |                    |                    |                     |       |         |
|           |      | STD      | 0150      | 1449  | 3591    | 2680    | 0013005         |        | 0194              | 15093        |         |                     |                    |            |                    |                    |                     |       |         |
| 198       |      | 085      | 0157      | 1449  | 35911   | 2680    |                 |        |                   | 15095        |         |                     |                    |            |                    |                    |                     |       |         |
|           |      | STD      | 0200      | 1321  | 3563    | 2686    | 0012591         |        | 0258              | 15056        |         |                     |                    |            |                    |                    |                     |       |         |
| 198       |      | 085      | T0208     | 1304  | 35593   | 2686    |                 |        |                   | 15052        |         |                     |                    |            |                    |                    |                     |       |         |
|           |      | STD      | 0250      | 1294  | 3560    | 2689    | 0012386         |        | 0321              | 15055        |         |                     |                    |            |                    |                    |                     |       |         |
|           |      | STD      | 0300      | 1281  | 3561    | 2692    | 0012197         |        | 0382              | 15059        |         |                     |                    |            |                    |                    |                     |       |         |
| 198       |      | 085      | 0312      | 1278  | 35617   | 2693    |                 |        |                   | 15060        |         |                     |                    |            |                    |                    |                     |       |         |
|           |      | STD      | 0400      | 1167  | 3547    | 2704    | 0011338         |        | 0500              | 15035        |         |                     |                    |            |                    |                    |                     |       |         |
| 198       |      | 085      | T0414     | 1145  | 35439   | 2705    |                 |        |                   | 15029        |         |                     |                    |            |                    |                    |                     |       |         |
|           |      | STD      | 0500      | 0975  | 3524    | 2720    | 0009841         |        | 0606              | 14980        |         |                     |                    |            |                    |                    |                     |       |         |
| 198       |      | 085      | 0516      | 0948  | 35210   | 2722    |                 |        |                   | 14972        |         |                     |                    |            |                    |                    |                     |       |         |
|           |      | STD      | 0600      | 0837  | 3515    | 2735    | 0008441         |        | 0697              | 14944        |         |                     |                    |            |                    |                    |                     |       |         |
| 198       |      | 085      | 0620      | 0811  | 35135   | 2739    |                 |        |                   | 14937        |         |                     |                    |            |                    |                    |                     |       |         |
|           |      | STD      | 0700      | 0698  | 3507    | 2750    | 0007087         |        | 0775              | 14906        |         |                     |                    |            |                    |                    |                     |       |         |
|           |      | STD      | 0800      | 0591  | 3501    | 2759    | 0006159         |        | 0841              | 14879        |         |                     |                    |            |                    |                    |                     |       |         |
| 198       |      | 085      | 0828      | 0568  | 34999   | 2761    |                 |        |                   | 14875        |         |                     |                    |            |                    |                    |                     |       |         |
|           |      | STD      | 0900      | 0538  | 3500    | 2765    | 0005658         |        | 0900              | 14874        |         |                     |                    |            |                    |                    |                     |       |         |
|           |      | STD      | 1000      | 0501  | 3500    | 2769    | 0005299         |        | 0955              | 14876        |         |                     |                    |            |                    |                    |                     |       |         |
| 198       |      | 085      | T1037     | 0469  | 34995   | 2771    |                 |        |                   | 14877        |         |                     |                    |            |                    |                    |                     |       |         |
|           |      | STD      | 1100      | 0470  | 3499    | 2772    | 0005046         |        | 1007              | 14880        |         |                     |                    |            |                    |                    |                     |       |         |
|           |      | STD      | 1200      | 0444  | 3499    | 2775    | 0004811         |        | 1056              | 14886        |         |                     |                    |            |                    |                    |                     |       |         |
|           |      | STD      | 1300      | 0423  | 3498    | 2777    | 0004709         |        | 1104              | 14894        |         |                     |                    |            |                    |                    |                     |       |         |
|           |      | STD      | 1400      | 0407  | 3498    | 2778    | 0004595         |        | 1150              | 14904        |         |                     |                    |            |                    |                    |                     |       |         |
|           |      | STD      | 1500      | 0397  | 3497    | 2779    | 0004628         |        | 1196              | 14916        |         |                     |                    |            |                    |                    |                     |       |         |
| 198       |      | 085      | T1604     | 0392  | 34964   | 2779    |                 |        |                   | 14932        |         |                     |                    |            |                    |                    |                     |       |         |

| REFERENCE | SHIP | LATITUDE | LONGITUDE | WMO   | MARSSEN |         | STATION TIME    |        | YEAR              | ORIGINATOR'S |         | DEPTH               | MAX.               | WAVE       |                    |                    | WEA-                | CLOUD | NOOC    |      |
|-----------|------|----------|-----------|-------|---------|---------|-----------------|--------|-------------------|--------------|---------|---------------------|--------------------|------------|--------------------|--------------------|---------------------|-------|---------|------|
| CRUISE    | NO.  | ° 1/10   | ° 1/10    | NO.   | SQUARE  |         | IGMT            |        |                   | CRUISE       | STATION | TO                  | DEPTH              | DIR        | HGT                | PER                | TH                  | TYPE  | STATION |      |
| NO.       |      |          |           |       |         |         |                 |        |                   | NO.          | NUMBER  | BOTTOM              | OF                 |            |                    |                    |                     | AMT   | NUMBER  |      |
| 311235    | AZ   | 43580N   | 041010W   | 149   | 31      | 04      | 07              | 1968   | 1968              | 016          | 008     | 4572                | 15                 | 24         | 4                  | 3                  | X2                  | 6     | 8       | 0008 |
|           |      |          |           |       |         |         |                 |        |                   |              |         |                     |                    |            |                    |                    |                     |       |         |      |
|           |      |          |           | WATER |         | WIND    |                 | BARO-  |                   | AIR TEMP. °C |         | VIS                 | NO.                | SPECIAL    |                    |                    |                     |       |         |      |
|           |      |          |           | COLOR | TRANS.  | DIR.    | SPEED           | METER  | DRY               | WET          |         |                     |                    |            |                    |                    |                     |       |         |      |
|           |      |          |           | CODE  | UNIT    |         | OR              | (mmHg) | RULE              | RULE         |         | CODE                | OBS.               | DEPTHS     | OBSERVATIONS       |                    |                     |       |         |      |
|           |      |          |           |       |         |         | 32              | 515    | 166               | 089          | 061     | 7                   | 14                 |            |                    |                    |                     |       |         |      |
| MESSAGE   | CAS- | CARD     | DEPTH (m) | T °C  | S ‰     | SIGMA-T | SPECIFIC VOLUME |        | Σ Δ D             | SOUND        |         |                     |                    |            |                    |                    |                     |       |         |      |
| TIME      | NO.  | TYPE     |           |       |         |         | ANOMALY-318°    |        | DTN. M.           | VELOCITY     |         | O <sub>2</sub> ml/l | PO <sub>2</sub> -P | TOTAL-P    | NO <sub>2</sub> -N | NO <sub>3</sub> -N | SiO <sub>2</sub> -S | pH    | T °C    |      |
| HR 1/10   |      |          |           |       |         |         |                 |        | x 10 <sup>3</sup> |              |         |                     | pg ± 0.1/1         | pg ± 0.1/1 | pg ± 0.01/1        | pg ± 0.01/1        | pg ± 0.01/1         |       |         |      |
|           |      | STD      | 0000      | 1427  | 3587    | 2682    | 0012407         |        | 0000              | 15061        |         |                     |                    |            |                    |                    |                     |       |         |      |
| 165       |      | 085      | 0000      | 1427  | 35867   | 2682    |                 |        |                   | 15061        |         |                     |                    |            |                    |                    |                     |       |         |      |
|           |      | STD      | 0010      | 1426  | 3587    | 2682    | 0012428         |        | 0012              | 15063        |         |                     |                    |            |                    |                    |                     |       |         |      |
|           |      | STD      | 0020      | 1425  | 3587    | 2682    | 0012448         |        | 0025              | 15064        |         |                     |                    |            |                    |                    |                     |       |         |      |
| 165       |      | 085      | 0025      | 1425  | 35864   | 2682    |                 |        |                   | 15065        |         |                     |                    |            |                    |                    |                     |       |         |      |
|           |      | STD      | 0030      | 1426  | 3587    | 2682    | 0012452         |        | 0037              | 15066        |         |                     |                    |            |                    |                    |                     |       |         |      |
|           |      | STD      | 0050      | 1425  | 3587    | 2681    | 0012581         |        | 0062              | 15070        |         |                     |                    |            |                    |                    |                     |       |         |      |
| 165       |      | 085      | 0054      | 1430  | 35871   | 2681    |                 |        |                   | 15071        |         |                     |                    |            |                    |                    |                     |       |         |      |
|           |      | STD      | 0075      | 1422  | 3586    | 2682    | 0012579         |        | 0094              | 15072        |         |                     |                    |            |                    |                    |                     |       |         |      |
| 165       |      | 085      | 0078      | 1421  | 35858   | 2682    |                 |        |                   | 15072        |         |                     |                    |            |                    |                    |                     |       |         |      |
|           |      | STD      | 0100      | 1412  | 3583    | 2682    | 0012667         |        | 0125              | 15072        |         |                     |                    |            |                    |                    |                     |       |         |      |
| 165       |      | 085      | 0106      | 1407  | 35814   | 2682    |                 |        |                   | 15072        |         |                     |                    |            |                    |                    |                     |       |         |      |
|           |      | STD      | 0125      | 1371  | 3571    | 2681    | 0012788         |        | 0157              | 15062        |         |                     |                    |            |                    |                    |                     |       |         |      |
|           |      | STD      | 0150      | 1339  | 3563    | 2682    | 0012807         |        | 0189              | 15054        |         |                     |                    |            |                    |                    |                     |       |         |      |
| 165       |      | 085      | 0154      | 1336  | 35624   | 2682    |                 |        |                   | 15054        |         |                     |                    |            |                    |                    |                     |       |         |      |
|           |      | STD      | 0200      | 1336  | 3565    | 2684    | 0012734         |        | 0253              | 15062        |         |                     |                    |            |                    |                    |                     |       |         |      |
| 165       |      | 085      | T0205     | 1336  | 35654   | 2684    |                 |        |                   | 15062        |         |                     |                    |            |                    |                    |                     |       |         |      |
|           |      | STD      | 0250      | 1284  | 3554    | 2686    | 0012662         |        | 0316              | 15051        |         |                     |                    |            |                    |                    |                     |       |         |      |
| 165       |      | 085      | 0297      | 1220  | 35435   | 2691    |                 |        |                   | 15036        |         |                     |                    |            |                    |                    |                     |       |         |      |
|           |      | STD      | 0300      | 1216  | 3543    | 2691    | 0012296         |        | 0379              | 15035        |         |                     |                    |            |                    |                    |                     |       |         |      |
| 165       |      | 085      | T0387     | 1071  | 35241   | 2703    |                 |        |                   | 14996        |         |                     |                    |            |                    |                    |                     |       |         |      |
|           |      | STD      | 0400      | 1038  | 3520    | 2706    | 0010997         |        | 0435              | 14986        |         |                     |                    |            |                    |                    |                     |       |         |      |
| 165       |      | 085      | 0478      | 0877  | 34995   | 2717    |                 |        |                   | 14937        |         |                     |                    |            |                    |                    |                     |       |         |      |
|           |      | STD      | 0500      | 0864  | 3499    | 2718    | 0009895         |        | 0600              | 14936        |         |                     |                    |            |                    |                    |                     |       |         |      |
|           |      | STD      | 0600      | 0835  | 3444    | 2724    | 0009437         |        | 0697              | 14929        |         |                     |                    |            |                    |                    |                     |       |         |      |
| 165       |      | 085      | T0675     | 0761  | 34906   | 2728    |                 |        |                   | 14924        |         |                     |                    |            |                    |                    |                     |       |         |      |
|           |      | STD      | 0700      | 0707  | 3495    | 2739    | 0008102         |        | 0785              | 14906        |         |                     |                    |            |                    |                    |                     |       |         |      |
| 165       |      | 085      | 0754      | 0698  | 35016   | 2758    |                 |        |                   | 14879        |         |                     |                    |            |                    |                    |                     |       |         |      |
|           |      | STD      | 0800      | 0587  | 3501    | 2760    | 0006104         |        | 0856              | 14876        |         |                     |                    |            |                    |                    |                     |       |         |      |
|           |      | STD      | 0900      | 0545  | 3499    | 2763    | 0005810         |        | 0915              | 14877        |         |                     |                    |            |                    |                    |                     |       |         |      |
|           |      | STD      | 1000      | 0507  | 3498    | 2767    | 0005496         |        | 0972              | 14878        |         |                     |                    |            |                    |                    |                     |       |         |      |
| 165       |      | 085      | T1043     | 0470  | 34976   | 2769    |                 |        |                   | 14879        |         |                     |                    |            |                    |                    |                     |       |         |      |
|           |      | STD      | 1100      | 0474  | 3497    | 2770    | 0005246         |        | 1026              | 14881        |         |                     |                    |            |                    |                    |                     |       |         |      |
|           |      | STD      | 1200      | 0445  | 3496    | 2773    | 0005044         |        | 1077              | 14886        |         |                     |                    |            |                    |                    |                     |       |         |      |
|           |      | STD      | 1300      | 0420  | 3495    | 2775    | 0004650         |        | 1127              | 14892        |         |                     |                    |            |                    |                    |                     |       |         |      |
|           |      | STD      | 1400      | 0400  | 3495    | 2777    | 0004723         |        | 1175              | 14900        |         |                     |                    |            |                    |                    |                     |       |         |      |
| 165       |      | 085      | T1470     | 0389  | 34941   | 2777    |                 |        |                   | 14907        |         |                     |                    |            |                    |                    |                     |       |         |      |



TABLE VII.—Continued

| WELSH TIME<br>HR 1/10 | CAS#<br>NO. | CARD<br>TYPE | DEPTH (m) | T °C | S ‰   | SIGMA-T | SPECIFIC VOLUME<br>AND (M-1) X 10 <sup>-3</sup> | $\frac{\Delta \rho}{\rho}$<br>DYN. M.<br>X 10 <sup>2</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>µg - ml/l | TOTAL-P<br>µg - ml/l | NO <sub>3</sub> -N<br>µg - ml/l | NO <sub>3</sub> -N<br>µg - ml/l | SIO <sub>4</sub> -Si<br>µg - ml/l | PH | SALINITY |
|-----------------------|-------------|--------------|-----------|------|-------|---------|---|--|-------------------|---------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|----|----------|
| 128                   | 085         | STD          | 0000      | 1427 | 3592  | 2686    | 0012005   | 0000   | 15062             |                     |                                 |                      |                                 |                                 |                                   |    |          |
|                       | 085         | 0000         |           | 1427 | 35922 | 2686    |   |  | 15062             |                     |                                 |                      |                                 |                                 |                                   |    |          |
|                       | STD         | 0010         |           | 1426 | 3592  | 2686    | 0012029   | 0012   | 15063             |                     |                                 |                      |                                 |                                 |                                   |    |          |
|                       | STD         | 0020         |           | 1425 | 3592  | 2686    | 0012038   | 0024   | 15065             |                     |                                 |                      |                                 |                                 |                                   |    |          |
| 128                   | 085         | 0027         |           | 1424 | 35916 | 2686    |   |  | 15065             |                     |                                 |                      |                                 |                                 |                                   |    |          |
|                       | STD         | 0030         |           | 1424 | 3591  | 2686    | 0012116   | 0036   | 15066             |                     |                                 |                      |                                 |                                 |                                   |    |          |
|                       | STD         | 0050         |           | 1422 | 3590  | 2685    | 0012216   | 0060   | 15068             |                     |                                 |                      |                                 |                                 |                                   |    |          |
| 128                   | 085         | 0052         |           | 1422 | 35898 | 2685    |   |  | 15069             |                     |                                 |                      |                                 |                                 |                                   |    |          |
|                       | STD         | 0075         |           | 1418 | 3590  | 2686    | 0012241   | 0091   | 15071             |                     |                                 |                      |                                 |                                 |                                   |    |          |
| 128                   | 085         | 0078         |           | 1417 | 35894 | 2686    |   |  | 15071             |                     |                                 |                      |                                 |                                 |                                   |    |          |
|                       | STD         | 0100         |           | 1405 | 3567  | 2687    | 0012224   | 0122   | 15070             |                     |                                 |                      |                                 |                                 |                                   |    |          |
| 128                   | 085         | 0101         |           | 1404 | 35665 | 2686    |   |  | 15070             |                     |                                 |                      |                                 |                                 |                                   |    |          |
|                       | STD         | 0125         |           | 1357 | 3567  | 2688    | 0012186   | 0152   | 15072             |                     |                                 |                      |                                 |                                 |                                   |    |          |
|                       | STD         | 0150         |           | 1350 | 3566  | 2689    | 0012124   | 0183   | 15074             |                     |                                 |                      |                                 |                                 |                                   |    |          |
| 128                   | 085         | 0151         |           | 1390 | 35864 | 2689    |   |  | 15074             |                     |                                 |                      |                                 |                                 |                                   |    |          |
|                       | STD         | 0200         |           | 1388 | 3586  | 2689    | 0012253   | 0243   | 15081             |                     |                                 |                      |                                 |                                 |                                   |    |          |
| 128                   | 085         | T0202        |           | 1388 | 35860 | 2689    |   |  | 15082             |                     |                                 |                      |                                 |                                 |                                   |    |          |
|                       | STD         | 0250         |           | 1364 | 3584  | 2689    | 0012459   | 0305   | 15088             |                     |                                 |                      |                                 |                                 |                                   |    |          |
| 128                   | 085         | 0292         |           | 1357 | 35784 | 2690    |   |  | 15085             |                     |                                 |                      |                                 |                                 |                                   |    |          |
|                       | STD         | 0300         |           | 1348 | 3576  | 2690    | 0012434   | 0367   | 15083             |                     |                                 |                      |                                 |                                 |                                   |    |          |
|                       | STD         | 0400         |           | 1183 | 3550  | 2703    | 0011388   | 0487   | 15041             |                     |                                 |                      |                                 |                                 |                                   |    |          |
| 128                   | 085         | T0401        |           | 1181 | 35501 | 2703    |   |  | 15040             |                     |                                 |                      |                                 |                                 |                                   |    |          |
| 128                   | 085         | 0476         |           | 0988 | 35265 | 2720    |   |  | 14981             |                     |                                 |                      |                                 |                                 |                                   |    |          |
|                       | STD         | 0500         |           | 0946 | 3522  | 2723    | 0009500   | 0591   | 14969             |                     |                                 |                      |                                 |                                 |                                   |    |          |
| 128                   | 085         | T0593        |           | 0777 | 35083 | 2736    |   |  | 14927             |                     |                                 |                      |                                 |                                 |                                   |    |          |
|                       | STD         | 0600         |           | 0786 | 3508  | 2738    | 0008163   | 0679   | 14924             |                     |                                 |                      |                                 |                                 |                                   |    |          |
|                       | STD         | 0700         |           | 0652 | 3502  | 2752    | 0006794   | 0754   | 14887             |                     |                                 |                      |                                 |                                 |                                   |    |          |
| 128                   | 085         | 0782         |           | 0568 | 34991 | 2761    |   |  | 14867             |                     |                                 |                      |                                 |                                 |                                   |    |          |
|                       | STD         | 0800         |           | 0557 | 3499  | 2762    | 0005845   | 0817   | 14865             |                     |                                 |                      |                                 |                                 |                                   |    |          |
|                       | STD         | 0900         |           | 0504 | 3457  | 2767    | 0005415   | 0874   | 14860             |                     |                                 |                      |                                 |                                 |                                   |    |          |
|                       | STD         | 1000         |           | 0460 | 3496  | 2771    | 0005031   | 0926   | 14858             |                     |                                 |                      |                                 |                                 |                                   |    |          |
| 128                   | 085         | T1005        |           | 0458 | 34956 | 2771    |   |  | 14858             |                     |                                 |                      |                                 |                                 |                                   |    |          |
|                       | STD         | 1100         |           | 0447 | 3496  | 2772    | 0004998   | 0976   | 14670             |                     |                                 |                      |                                 |                                 |                                   |    |          |
|                       | STD         | 1200         |           | 0436 | 3496  | 2773    | 0004950   | 1026   | 14882             |                     |                                 |                      |                                 |                                 |                                   |    |          |
|                       | STD         | 1300         |           | 0424 | 3496  | 2775    | 0004897   | 1075   | 14894             |                     |                                 |                      |                                 |                                 |                                   |    |          |
|                       | STD         | 1400         |           | 0412 | 3496  | 2776    | 0004834   | 1124   | 14906             |                     |                                 |                      |                                 |                                 |                                   |    |          |
|                       | STD         | 1500         |           | 0401 | 3496  | 2777    | 0004773   | 1172   | 14918             |                     |                                 |                      |                                 |                                 |                                   |    |          |
| 128                   | 085         | T1602        |           | 0389 | 34957 | 2778    |   |  | 14930             |                     |                                 |                      |                                 |                                 |                                   |    |          |



TABLE VIII.—Observed and interpolated oceanographic data for stations taken by USCGC COOK INLET at Ocean Station DELTA, 14 April–5 May 1968, prepared from NODC listing No. 31–1241 CO.

| REFERENCE<br>CRUISE<br>NO. | SHIP<br>CODE | LATITUDE<br>° 1/10' | LONGITUDE<br>° 1/10' | DEPTH<br>m | MARSDEN<br>SQUARE | STATION TIME<br>(GMT) |                                |                | YEAR                                  | ORIGINATOR'S      |                     | DEPTH<br>TO<br>BOTTOM                        | MAX. DEPTH<br>OBSERVATIONS        |  |  | WAVE<br>DIRECTION<br>SEA                       | WEA-<br>THIR<br>CODE | CLOUD<br>CODES |      | NODC<br>STATION<br>NUMBER |     |
|----------------------------|--------------|---------------------|----------------------|------------|-------------------|-----------------------|--------------------------------|----------------|---------------------------------------|-------------------|---------------------|--|-----------------------------------|--|--|--|----------------------|----------------|------|---------------------------|-----|
|                            |              |                     |                      |            |                   | 10'                   | 1"                             | MO DAY HR/10   |                                       | CRUISE<br>NO.     | STATION<br>NUMBER   |  | DIR.                              | HGT  | PER  |  |                      | SEA            | TYPE |                           | AMT |
|                            |              |                     |                      |            |                   | WATER                 | WIND                           | BARO-<br>METER |                                       | AIR TEMP. °C      | NO. OBS.<br>DEPTHS  |  | SPECIAL<br>OBSERVATIONS           |  |  |  |                      |                |      |                           |     |
|                            |              |                     |                      |            |                   | COLOR<br>CODE         | TRANS-<br>MITS                 | DIR.           | SPEED<br>OR<br>FORCE                  | BARO-<br>METER    | DRY<br>BULB         | WET<br>BULB                                  | VIS<br>CODE                       |  |  |  |                      |                |      |                           |     |
| 311241                     | CU           | 4407 N              | 04115 W              | 145        | 42                | 04 14 12              | 1968                           | C17            | 001                                   | 4755              | 35                  | 2  | 6                                 |  | X1   | 8  | 1                    |                | 0001 |                           |     |
| MESSAGE<br>TIME<br>HR 1/10 | CARD<br>NO.  | CARD<br>TYPE        | DEPTH (m)            | T °C       | S ‰               | SIGMA-T               | SPECIFIC VOLUME<br>ANOMALY-18° |                | Σ Δ D<br>DYN. M.<br>X 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>2</sub> -P<br>μg - σ <sub>t</sub> /l | TOTAL-P<br>μg - σ <sub>t</sub> /l | NO <sub>2</sub> -N<br>μg - σ <sub>t</sub> /l | NO <sub>3</sub> -N<br>μg - σ <sub>t</sub> /l | SiO <sub>2</sub> -Si<br>μg - σ <sub>t</sub> /l | pH                   | CHL            |      |                           |     |
|                            |              | STO                 | 0000                 | 1411       | 3583              | 2086                  | 0011967                        |                | 0000                                  | 15056             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
| 191                        |              | ORS                 | 0000                 | 1411       | 35833             | 2686                  |                                |                |                                       | 15036             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 0010                 | 1402       | 3588              | 2088                  | 0011800                        |                | 0011                                  | 15055             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 0020                 | 1396       | 3587              | 2087                  | 0011799                        |                | 0023                                  | 15055             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
| 191                        |              | ORS                 | 0026                 | 1394       | 35871             | 2089                  |                                |                |                                       | 15055             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 0030                 | 1395       | 3587              | 2089                  | 0011817                        |                | 0035                                  | 15056             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 0050                 | 1399       | 3588              | 2088                  | 0011923                        |                | 0059                                  | 15060             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
| 191                        |              | ORS                 | 0051                 | 1399       | 35876             | 2088                  |                                |                |                                       | 15061             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 0075                 | 1396       | 3588              | 2087                  | 0011924                        |                | 0089                                  | 15064             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
| 191                        |              | ORS                 | 0079                 | 1396       | 35879             | 2087                  |                                |                |                                       | 15064             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 0100                 | 1395       | 3587              | 2089                  | 0012014                        |                | 0119                                  | 15067             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
| 191                        |              | ORS                 | 0103                 | 1395       | 35872             | 2089                  |                                |                |                                       | 15068             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 0125                 | 1397       | 3587              | 2089                  | 0012123                        |                | 0149                                  | 15072             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 0150                 | 1399       | 3587              | 2088                  | 0012223                        |                | 0179                                  | 15077             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
| 191                        |              | ORS                 | 0156                 | 1399       | 35874             | 2088                  |                                |                |                                       | 15078             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 0200                 | 1400       | 3588              | 2088                  | 0012378                        |                | 0241                                  | 15085             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
| 191                        |              | ORS                 | T0208                | 1400       | 35876             | 2088                  |                                |                |                                       | 15087             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 0250                 | 1398       | 3586              | 2087                  | 0012594                        |                | 0303                                  | 15033             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 0300                 | 1391       | 3579              | 2090                  | 0012484                        |                | 0366                                  | 15088             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
| 191                        |              | ORS                 | 0312                 | 1386       | 35766             | 2091                  |                                |                |                                       | 15085             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 0400                 | 1159       | 3545              | 2704                  | 0011299                        |                | 0485                                  | 15032             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
| 191                        |              | ORS                 | T0417                | 1117       | 35395             | 2707                  |                                |                |                                       | 15020             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 0501                 | 0932       | 3517              | 2722                  | 0009638                        |                | 0589                                  | 14963             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
| 191                        |              | ORS                 | 0522                 | 0882       | 35119             | 2720                  |                                |                |                                       | 14948             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 0600                 | 0700       | 3498              | 2742                  | 0007625                        |                | 0676                                  | 14889             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
| 191                        |              | ORS                 | T0623                | 0658       | 34952             | 2746                  |                                |                |                                       | 14876             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 0700                 | 0602       | 3496              | 2754                  | 0006523                        |                | 0746                                  | 14866             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 0800                 | 0544       | 3497              | 2762                  | 0005778                        |                | 0808                                  | 14660             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
| 191                        |              | ORS                 | 0842                 | 0524       | 34979             | 2765                  |                                |                |                                       | 14859             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 0900                 | 0508       | 3498              | 2767                  | 0005367                        |                | 0864                                  | 14862             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 1000                 | 0483       | 3499              | 2771                  | 0005115                        |                | 0916                                  | 14869             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
| 191                        |              | ORS                 | T1067                | 0408       | 34992             | 2773                  |                                |                |                                       | 14873             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 1100                 | 0401       | 3499              | 2773                  | 0004937                        |                | 0906                                  | 14876             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 1200                 | 0441       | 3498              | 2775                  | 0004843                        |                | 1015                                  | 14884             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 1300                 | 0423       | 3497              | 2776                  | 0004774                        |                | 1063                                  | 14893             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 1400                 | 0408       | 3496              | 2777                  | 0004731                        |                | 1111                                  | 14904             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 1500                 | 0395       | 3495              | 2778                  | 0004715                        |                | 1158                                  | 14915             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
| 191                        |              | ORS                 | T1602                | 0384       | 34944             | 2778                  |                                |                |                                       | 14928             |                     |  |                                   |  |  |  |                      |                |      |                           |     |

| REFERENCE<br>CRUISE<br>NO. | SHIP<br>CODE | LATITUDE<br>° 1/10' | LONGITUDE<br>° 1/10' | DEPTH<br>m | MARSDEN<br>SQUARE | STATION TIME<br>(GMT) |                                |                | YEAR                                  | ORIGINATOR'S      |                     | DEPTH<br>TO<br>BOTTOM                        | MAX. DEPTH<br>OBSERVATIONS        |  |  | WAVE<br>DIRECTION<br>SEA                       | WEA-<br>THIR<br>CODE | CLOUD<br>CODES |      | NODC<br>STATION<br>NUMBER |     |
|----------------------------|--------------|---------------------|----------------------|------------|-------------------|-----------------------|--------------------------------|----------------|---------------------------------------|-------------------|---------------------|--|-----------------------------------|--|--|--|----------------------|----------------|------|---------------------------|-----|
|                            |              |                     |                      |            |                   | 10'                   | 1"                             | MO DAY HR/10   |                                       | CRUISE<br>NO.     | STATION<br>NUMBER   |  | DIR.                              | HGT  | PER  |  |                      | SEA            | TYPE |                           | AMT |
|                            |              |                     |                      |            |                   | WATER                 | WIND                           | BARO-<br>METER |                                       | AIR TEMP. °C      | NO. OBS.<br>DEPTHS  |  | SPECIAL<br>OBSERVATIONS           |  |  |  |                      |                |      |                           |     |
|                            |              |                     |                      |            |                   | COLOR<br>CODE         | TRANS-<br>MITS                 | DIR.           | SPEED<br>OR<br>FORCE                  | BARO-<br>METER    | DRY<br>BULB         | WET<br>BULB                                  | VIS<br>CODE                       |  |  |  |                      |                |      |                           |     |
| 311241                     | CO           | 4353 N              | 04052 W              | 145        | 30                | 04 15 13              | 1968                           | C17            | 002                                   | 4755              | 32                  | 4  |                                   | X2   | 6  | 8  |                      | 0002           |      |                           |     |
| MESSAGE<br>TIME<br>HR 1/10 | CARD<br>NO.  | CARD<br>TYPE        | DEPTH (m)            | T °C       | S ‰               | SIGMA-T               | SPECIFIC VOLUME<br>ANOMALY-18° |                | Σ Δ D<br>DYN. M.<br>X 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>2</sub> -P<br>μg - σ <sub>t</sub> /l | TOTAL-P<br>μg - σ <sub>t</sub> /l | NO <sub>2</sub> -N<br>μg - σ <sub>t</sub> /l | NO <sub>3</sub> -N<br>μg - σ <sub>t</sub> /l | SiO <sub>2</sub> -Si<br>μg - σ <sub>t</sub> /l | pH                   | CHL            |      |                           |     |
|                            |              | STO                 | 0000                 | 1387       | 3580              | 2085                  | 0012034                        |                | 0000                                  | 15047             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
| 132                        |              | ORS                 | 0000                 | 1387       | 35801             | 2085                  |                                |                |                                       | 15047             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 0010                 | 1387       | 3580              | 2085                  | 0012104                        |                | 0012                                  | 15049             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 0020                 | 1386       | 3580              | 2085                  | 0012124                        |                | 0024                                  | 15050             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
| 132                        |              | ORS                 | 0024                 | 1386       | 35822             | 2085                  |                                |                |                                       | 15051             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 0030                 | 1388       | 3580              | 2085                  | 0012117                        |                | 0036                                  | 15053             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
| 132                        |              | ORS                 | 0047                 | 1391       | 35796             | 2084                  |                                |                |                                       | 15056             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 0050                 | 1397       | 3580              | 2084                  | 0012320                        |                | 0060                                  | 15057             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
| 132                        |              | ORS                 | 0060                 | 1386       | 35803             | 2085                  |                                |                |                                       | 15058             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 0075                 | 1385       | 3580              | 2085                  | 0012274                        |                | 0091                                  | 15059             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
| 132                        |              | ORS                 | 0092                 | 1385       | 35800             | 2085                  |                                |                |                                       | 15062             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 0100                 | 1386       | 3581              | 2086                  | 0012266                        |                | 0122                                  | 15064             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 0125                 | 1380       | 3584              | 2085                  | 0012221                        |                | 0152                                  | 15069             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
| 132                        |              | ORS                 | 0138                 | 1382       | 35844             | 2087                  |                                |                |                                       | 15072             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 0150                 | 1387       | 3583              | 2087                  | 0012311                        |                | 0193                                  | 15072             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
| 132                        |              | ORS                 | T0183                | 1373       | 35827             | 2083                  |                                |                |                                       | 15073             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 0200                 | 1364       | 3580              | 2083                  | 0012248                        |                | 0245                                  | 15073             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 0250                 | 1359       | 3575              | 2091                  | 0012190                        |                | 0306                                  | 15072             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
| 132                        |              | ORS                 | 0207                 | 1350       | 35723             | 2091                  |                                |                |                                       | 15072             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 0300                 | 1266       | 3565              | 2099                  | 0011560                        |                | 0365                                  | 15053             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
| 132                        |              | ORS                 | 0355                 | 1131       | 35472             | 2711                  |                                |                |                                       | 15015             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 0400                 | 0857       | 3523              | 2710                  | 0010070                        |                | 0473                                  | 14971             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
| 132                        |              | ORS                 | 0407                 | 0801       | 35079             | 2720                  |                                |                |                                       | 14941             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 0500                 | 0824       | 3501              | 2727                  | 0009060                        |                | 0509                                  | 14921             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
| 132                        |              | ORS                 | T0527                | 071        | 34985             | 2710                  |                                |                |                                       | 14912             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 0600                 | 0710       | 3497              | 2741                  | 0007715                        |                | 0653                                  | 14893             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
| 132                        |              | ORS                 | 0656                 | 0617       | 34943             | 2754                  |                                |                |                                       | 14873             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 0700                 | 0616       | 3495              | 2754                  | 0006572                        |                | 0724                                  | 14872             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
|                            |              | STO                 | 0800                 | 0544       | 3498              | 2753                  | 0005743                        |                | 0786                                  | 14860             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
| 132                        |              | ORS                 | T0875                | 0503       | 34975             | 2768                  |                                |                |                                       | 14856             |                     |  |                                   |  |  |  |                      |                |      |                           |     |
| 132                        |              | ORS                 | 13054                | 0429       | 34975             | 27760                 |                                |                |                                       |                   |                     |  |                                   |  |  |  |                      |                |      |                           |     |



TABLE VIII.—Continued

| REFERENCE | SHIP<br>CODE | LATITUDE<br>° ' 10" | LONGITUDE<br>° ' 10" | MASS<br>SQUARE |               | STATION TIME<br>(GMT) |                        | YEAR | ORIGINATOR'S  |                   | DEPTH<br>TO<br>BOTTOM | WAVE<br>OBSERVATIONS | WIND<br>CODE | CLOUD<br>CODE | NO. OF<br>STATION<br>NUMBER |
|-----------|--------------|---------------------|----------------------|----------------|---------------|-----------------------|------------------------|------|---------------|-------------------|-----------------------|----------------------|--------------|---------------|-----------------------------|
|           |              |                     |                      | WATER          |               | WIND                  |                        |      | CRUISE<br>NO. | STATION<br>NUMBER |                       |                      |              |               |                             |
|           |              |                     |                      | COLOR<br>CODE  | TEMP.<br>(°C) | DIR.<br>OR<br>FORCE   | BARO-<br>METER<br>(mm) |      |               |                   |                       |                      |              |               |                             |
| 311241    | CD           | 4°53' N             | 041°06' W            | 149            | 31 04 12      | 1903                  | 017                    | 003  | 4064          | 35                | 2                     | X1                   | 4 16         | 0003          |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
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|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |
|           |              |                     |                      |                |               |                       |                        |      |               |                   |                       |                      |              |               |                             |



TABLE VIII.—Continued

[illegible]

| REFERENCE<br>CTRY<br>CODE   | ID.<br>NO.  | SHIP<br>CODE | LATITUDE<br>°<br>L/10 | LONGITUDE<br>°<br>L/10 | WATSON<br>SQUARE | STATION TIME<br>(GMT) | YEAR                            | ORIGINATOR'S            |                   | DEPTH<br>TO<br>BOTTOM | MAX. DEPTH<br>OF<br>SAMPLE | WAVE<br>OBSERVATIONS |                                 |                                 | WEA-<br>THER<br>CODE              | CLOUD<br>CODES<br>(TYP AMT) | NODC<br>STATION<br>NUMBER |      |  |  |
|-----------------------------|-------------|--------------|-----------------------|------------------------|------------------|-----------------------|---------------------------------|-------------------------|-------------------|-----------------------|----------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|-----------------------------|---------------------------|------|--|--|
|                             |             |              |                       |                        |                  |                       |                                 | CAUSE<br>NO.            | STATION<br>NUMBER |                       |                            | DIR.                 | HGT                             | PER                             |                                   |                             |                           | STA  |  |  |
|                             |             |              |                       |                        |                  |                       |                                 |                         |                   |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |
| 311241                      | C1          |              | 4402 N                | 04054 W                | 145              | 42 74 18              | 134                             | 1763                    | C17 005           | 4505                  |                            |                      |                                 | 34                              |                                   |                             |                           | 0005 |  |  |
|                             |             |              |                       |                        | WATER            |                       | WIND                            |                         | BARO-<br>METER    |                       | AIR TEMP. °C               |                      | NO.<br>OBS.<br>DEPTH            |                                 | SPECIAL<br>OBSERVATIONS           |                             |                           |      |  |  |
|                             |             |              |                       |                        | COLOR<br>CODE    |                       | TRANS<br>(m)                    |                         | DIL.              |                       | SPEED<br>OF<br>FORCE       |                      | DRY<br>BULB                     |                                 | WET<br>BULB                       |                             | VIS<br>CODE               |      |  |  |
|                             |             |              |                       |                        | 52               |                       | 520                             |                         | 140               |                       | 133                        |                      | 127                             |                                 | 7                                 |                             |                           |      |  |  |
| WESSLING<br>NAME<br>HR L/10 | CAST<br>NO. | CARD<br>TYPE | DEPTH (m)             | T °C                   | S ‰              | SIGMA-T               | SPECIFIC VOLUME<br>ANOMALY-TEMP | Σ Δ D<br>TEMP. Δ<br>10° | SOUND<br>VELOCITY | O <sub>2</sub> ml/l   | PO=ρ<br>sg - dl/l          | TOTAL-ρ<br>sg - dl/l | NO <sub>3</sub> -N<br>ug - dl/l | NO <sub>3</sub> -N<br>ug - dl/l | SiO <sub>4</sub> -Si<br>ug - dl/l | pH                          | COND.                     |      |  |  |
|                             |             | STD          | 0000                  | 1475                   | 3603             | 2634                  | 00122200                        | 0000                    | 15079             |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |
| 134                         | 085         | 0000         | 1475                  | 35074                  | 2634             |                       |                                 |                         | 15079             |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |
|                             | STD         | 0010         | 1474                  | 3603                   | 2634             | 0012223               | 0012                            |                         | 15080             |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |
|                             | STD         | 0020         | 1473                  | 3603                   | 2684             | 0012245               | 0024                            |                         | 15081             |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |
| 134                         | 085         | 0026         | 1473                  | 36027                  | 2684             |                       |                                 |                         | 15082             |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |
|                             | STD         | 0030         | 1473                  | 3603                   | 2684             | 0012284               | 0036                            |                         | 15083             |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |
|                             | STD         | 0050         | 1470                  | 3603                   | 2683             | 0012331               | 0061                            |                         | 15087             |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |
| 134                         | 085         | 0052         | 1476                  | 36028                  | 2683             |                       |                                 |                         | 15087             |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |
|                             | STD         | 0075         | 1474                  | 36031                  | 2683             | 0012548               | 0092                            |                         | 15090             |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |
| 134                         | 085         | 0076         | 1470                  | 36003                  | 2683             |                       |                                 |                         | 15090             |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |
|                             | STD         | 0100         | 1426                  | 35991                  | 2680             | 0012330               | 0123                            |                         | 15078             |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |
| 134                         | 085         | 0105         | 1418                  | 35393                  | 2686             |                       |                                 |                         | 15076             |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |
|                             | STD         | 0125         | 1410                  | 35889                  | 2687             | 0012280               | 0154                            |                         | 15077             |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |
|                             | STD         | 0150         | 1400                  | 35887                  | 2688             | 0012269               | 0185                            |                         | 15077             |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |
| 134                         | 085         | 0156         | 1395                  | 35954                  | 2688             |                       |                                 |                         | 15077             |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |
|                             | STD         | 0200         | 1390                  | 3582                   | 2686             | 0012362               | 0246                            |                         | 15078             |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |
| 134                         | 085         | 0212         | 1371                  | 35903                  | 2689             |                       |                                 |                         | 15077             |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |
|                             | STD         | 0250         | 1314                  | 3567                   | 2690             | 0012290               | 0308                            |                         | 15063             |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |
|                             | STD         | 0300         | 1425                  | 3550                   | 2694             | 0012000               | 0369                            |                         | 15040             |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |
| 134                         | 085         | 0310         | 1163                  | 35442                  | 2695             |                       |                                 |                         | 15030             |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |
|                             | STD         | 0400         | 1003                  | 35155                  | 2704             | 0010761               | 0482                            |                         | 14575             |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |
| 134                         | 085         | 0402         | 0955                  | 35106                  | 2712             |                       |                                 |                         | 14565             |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |
|                             | STD         | 0500         | 0967                  | 35096                  | 2725             | 0009210               | 0582                            |                         | 14330             |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |
| 134                         | 085         | 0536         | 0755                  | 35022                  | 2732             |                       |                                 |                         | 14916             |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |
|                             | STD         | 0600         | 0710                  | 3502                   | 2744             | 0007480               | 0606                            |                         | 14993             |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |
| 134                         | 085         | 0645         | 0652                  | 35014                  | 2751             |                       |                                 |                         | 14680             |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |
|                             | STD         | 0700         | 0612                  | 3503                   | 2750             | 0006359               | 0735                            |                         | 14371             |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |
|                             | STD         | 0800         | 0542                  | 3493                   | 2764             | 0005668               | 0795                            |                         | 14859             |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |
| 134                         | 085         | 0846         | 0507                  | 34930                  | 2767             |                       |                                 |                         | 14856             |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |
|                             | STD         | 0900         | 0437                  | 3498                   | 2763             | 0005254               | 0850                            |                         | 14857             |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |
|                             | STD         | 1000         | 0470                  | 3498                   | 2771             | 0005039               | 0901                            |                         | 14863             |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |
| 134                         | 085         | 1038         | 0445                  | 34974                  | 2773             |                       |                                 |                         | 14869             |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |
|                             | STD         | 1100         | 0446                  | 3497                   | 2774             | 0004964               | 0951                            |                         | 14870             |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |
|                             | STD         | 1200         | 0426                  | 3497                   | 2776             | 0004731               | 0999                            |                         | 14878             |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |
|                             | STD         | 1300         | 0439                  | 3496                   | 2777             | 0004635               | 1046                            |                         | 14866             |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |
|                             | STD         | 1400         | 0395                  | 3496                   | 2774             | 0004594               | 1092                            |                         | 14879             |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |
|                             | STD         | 1500         | 0393                  | 3495                   | 2772             | 0004553               | 1138                            |                         | 14911             |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |
| 134                         | 085         | 1543         | 0376                  | 34943                  | 2775             |                       |                                 |                         | 14931             |                       |                            |                      |                                 |                                 |                                   |                             |                           |      |  |  |



TABLE VIII.—Continued

| REFERENCE<br>CITY<br>CODE   | SHIP<br>ID. NO. | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MARSDEN<br>SQUARE | STATION TIME<br>(GMT) |                                     |   | YEAR              | ORIGINATOR'S        |                                 | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPLE   | WAVE<br>OBSERVATIONS            |                                   |     | WEA-<br>THER<br>CODE | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |
|-----------------------------|-----------------|--------------|--------------------|---------------------|-------------------|-----------------------|-------------------------------------|---|-------------------|---------------------|---------------------------------|-----------------------|---------------------------------|---------------------------------|-----------------------------------|-----|----------------------|----------------|---------------------------|
|                             |                 |              |                    |                     |                   | MO                    | DAY                                 | HR./10  |                   | CRUISE<br>NO.       | STATION<br>NUMBER               |                       |                                 | DIA.                            | HGT                               | PER |                      |                |                           |
| 311241                      | CD              |              | 4355 N             | 04054 W             | 14 30             | 04                    | 19                                  | 130   | 1969              | 017                 | 006                             | 4780                  | 33                              |                                 |                                   | 2   | X1                   | 6 2            | 0006                      |
|                             |                 |              |                    |                     |                   |                       |                                     |   |                   |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | WATER        |                    | WIND                |                   | BARO-<br>METER        |                                     | AIR TEMP. °C                                      |                   | WIL CODE            |                                 | NO. OBS. DEPTHS       |                                 | SPECIAL OBSERVATIONS            |                                   |     |                      |                |                           |
|                             |                 | COLOR CODE   | TRANS. (m)         | DIR.                | SPEED OF FORCE    | (mbars)               |                                     | DRY BULB  | WET BULB          |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 |              |                    |                     | 33                | 510                   | 156                                 | 116   | 116               | 7                   | 14                              |                       |                                 |                                 |                                   |     |                      |                |                           |
| MESSAGE<br>TIME<br>HR. 1/10 | CASE<br>NO.     | CARD<br>TYPE | DEPTH (m)          | T °C                | S ‰               | SIGMA-T               | SPECIFIC VOLUME<br>AND SAL. AT 0 °C | $\Sigma \Delta D$<br>DYN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | D <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>µg - ml/l | TOTAL-P<br>µg - ml/l  | NO <sub>3</sub> -N<br>µg - ml/l | NO <sub>3</sub> -N<br>µg - ml/l | SiO <sub>4</sub> -Si<br>µg - ml/l | pH  | STATION<br>CODE      |                |                           |
|                             |                 | STO          | 0000               | 1356                | 3584              | 2680                  | 0011994                             | 0000  | 15051             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 120                         |                 | OPS          | 0000               | 1356                | 3583              | 2680                  |                                     |   | 15051             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 0010               | 1355                | 3584              | 2680                  | 0012014                             | 0012  | 15052             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 0020               | 1354                | 3584              | 2686                  | 0012034                             | 0024  | 15054             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 130                         |                 | OPS          | 0020               | 1354                | 3583              | 2686                  |                                     |   | 15054             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 0030               | 1356                | 3584              | 2686                  | 0012045                             | 0036  | 15056             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 0050               | 1403                | 3587              | 2687                  | 0012050                             | 0060  | 15062             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 130                         |                 | OPS          | 0052               | 1403                | 3587              | 2687                  |                                     |   | 15062             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 0075               | 1396                | 3587              | 2688                  | 0012023                             | 0030  | 15064             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 130                         |                 | OPS          | 0075               | 1397                | 3587              | 2688                  |                                     |   | 15065             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 0100               | 1387                | 3587              | 2690                  | 0011890                             | 0120  | 15065             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 130                         |                 | OPS          | 0105               | 1385                | 3586              | 2691                  |                                     |   | 15065             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 0125               | 1379                | 3585              | 2690                  | 0011539                             | 0149  | 15066             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 0150               | 1373                | 3583              | 2690                  | 0012009                             | 0179  | 15068             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 130                         |                 | OPS          | 0157               | 1371                | 3582              | 2691                  |                                     |   | 15068             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 0200               | 1363                | 3582              | 2691                  | 0012050                             | 0240  | 15073             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 130                         |                 | OPS          | 0210               | 1361                | 3581              | 2692                  |                                     |   | 15074             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 0250               | 1346                | 3579              | 2693                  | 0012094                             | 0300  | 15075             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 0300               | 1327                | 3575              | 2693                  | 0012124                             | 0360  | 15076             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 130                         |                 | OPS          | 0310               | 1323                | 3574              | 2694                  |                                     |   | 15076             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 0400               | 1133                | 3542              | 2706                  | 0011091                             | 0477  | 15022             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 130                         |                 | OPS          | 0409               | 1116                | 3539              | 2707                  |                                     |   | 15018             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 0500               | 0967                | 3523              | 2721                  | 0009790                             | 0581  | 14977             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 130                         |                 | OPS          | 0510               | 0948                | 3521              | 2722                  |                                     |   | 14971             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 0600               | 0746                | 3502              | 2739                  | 0008007                             | 0670  | 14907             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 130                         |                 | OPS          | 0609               | 0730                | 3500              | 2740                  |                                     |   | 14903             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 0700               | 0644                | 3500              | 2751                  | 0006857                             | 0744  | 14884             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 0800               | 0569                | 3499              | 2760                  | 0006021                             | 0809  | 14870             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 120                         |                 | OPS          | 0811               | 0562                | 3498              | 2761                  |                                     |   | 14869             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 0900               | 0520                | 3499              | 2766                  | 0005507                             | 0866  | 14867             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 1000               | 0480                | 3498              | 2771                  | 0005115                             | 0919  | 14867             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 130                         |                 | OPS          | 1101               | 0474                | 3493              | 2771                  |                                     |   | 14867             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 1100               | 0460                | 3493              | 2773                  | 0005005                             | 0970  | 14875             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 1200               | 0443                | 3497              | 2774                  | 0004923                             | 1020  | 14885             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 1300               | 0425                | 3496              | 2775                  | 0004870                             | 1069  | 14894             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 1400               | 0408                | 3495              | 2776                  | 0004813                             | 1117  | 14904             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 1500               | 0391                | 3494              | 2777                  | 0004756                             | 1165  | 14913             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 130                         |                 | OPS          | 11543              | 0364                | 3493              | 2777                  |                                     |   | 14918             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |

| REFERENCE<br>CITY<br>CODE   | SHIP<br>ID. NO. | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MARSDEN<br>SQUARE | STATION TIME<br>(GMT) |                                     |   | YEAR              | ORIGINATOR'S        |                                 | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPLE   | WAVE<br>OBSERVATIONS            |                                   |     | WEA-<br>THER<br>CODE | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |
|-----------------------------|-----------------|--------------|--------------------|---------------------|-------------------|-----------------------|-------------------------------------|---|-------------------|---------------------|---------------------------------|-----------------------|---------------------------------|---------------------------------|-----------------------------------|-----|----------------------|----------------|---------------------------|
|                             |                 |              |                    |                     |                   | MO                    | DAY                                 | HR./10  |                   | CRUISE<br>NO.       | STATION<br>NUMBER               |                       |                                 | DIA.                            | HGT                               | PER |                      |                |                           |
| 311241                      | CD              |              | 4401 N             | 04055 W             | 14 50             | 04                    | 20                                  | 133   | 1968              | 017                 | 007                             | 4755                  | 01                              |                                 |                                   | 2   | X2                   | 6 8            | 0007                      |
|                             |                 |              |                    |                     |                   |                       |                                     |   |                   |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | WATER        |                    | WIND                |                   | BARO-<br>METER        |                                     | AIR TEMP. °C                                      |                   | WIL CODE            |                                 | NO. OBS. DEPTHS       |                                 | SPECIAL OBSERVATIONS            |                                   |     |                      |                |                           |
|                             |                 | COLOR CODE   | TRANS. (m)         | DIR.                | SPEED OF FORCE    | (mbars)               |                                     | DRY BULB  | WET BULB          |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 |              |                    |                     | 30                | 509                   | 163                                 | 133   | 120               | 7                   | 14                              |                       |                                 |                                 |                                   |     |                      |                |                           |
| MESSAGE<br>TIME<br>HR. 1/10 | CASE<br>NO.     | CARD<br>TYPE | DEPTH (m)          | T °C                | S ‰               | SIGMA-T               | SPECIFIC VOLUME<br>AND SAL. AT 0 °C | $\Sigma \Delta D$<br>DYN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | D <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>µg - ml/l | TOTAL-P<br>µg - ml/l  | NO <sub>3</sub> -N<br>µg - ml/l | NO <sub>3</sub> -N<br>µg - ml/l | SiO <sub>4</sub> -Si<br>µg - ml/l | pH  | STATION<br>CODE      |                |                           |
|                             |                 | STO          | 0000               | 1470                | 3603              | 2685                  | 0012075                             | 0000  | 15077             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 133                         |                 | OPS          | 0000               | 1470                | 3603              | 2685                  |                                     |   | 15077             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 0010               | 1470                | 3603              | 2685                  | 0012097                             | 0012  | 15079             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 0020               | 1470                | 3604              | 2685                  | 0012127                             | 0024  | 15080             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 133                         |                 | OPS          | 0025               | 1470                | 3603              | 2685                  |                                     |   | 15081             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 0030               | 1458                | 3601              | 2686                  | 0012094                             | 0036  | 15078             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 0050               | 1413                | 3591              | 2688                  | 0011977                             | 0060  | 15065             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 123                         |                 | OPS          | 0051               | 1411                | 3590              | 2688                  |                                     |   | 15065             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 0075               | 1398                | 3586              | 2688                  | 0012068                             | 0090  | 15064             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 133                         |                 | OPS          | 0077               | 1357                | 3586              | 2688                  |                                     |   | 15064             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 0100               | 1394                | 3588              | 2689                  | 0011969                             | 0120  | 15067             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 133                         |                 | OPS          | 0102               | 1394                | 3587              | 2689                  |                                     |   | 15067             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 0125               | 1394                | 3587              | 2689                  | 0012078                             | 0150  | 15071             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 0150               | 1393                | 3586              | 2689                  | 0012195                             | 0180  | 15075             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 123                         |                 | OPS          | 0155               | 1393                | 3586              | 2688                  |                                     |   | 15076             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 0200               | 1379                | 3584              | 2690                  | 0012190                             | 0241  | 15078             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 133                         |                 | OPS          | 0207               | 1377                | 3584              | 2690                  |                                     |   | 15079             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 0250               | 1371                | 3583              | 2691                  | 0012285                             | 0303  | 15084             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 0300               | 1365                | 3582              | 2691                  | 0012346                             | 0364  | 15090             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 133                         |                 | OPS          | 0308               | 1364                | 3581              | 2691                  |                                     |   | 15091             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 0400               | 1275                | 3564              | 2696                  | 0012165                             | 0487  | 15074             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 133                         |                 | OPS          | 0409               | 1255                | 3561              | 2697                  |                                     |   | 15070             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 0500               | 1012                | 3526              | 2716                  | 0010291                             | 0599  | 14994             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 123                         |                 | OPS          | 0515               | 0977                | 3522              | 2718                  |                                     |   | 14993             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 0600               | 0816                | 3508              | 2733                  | 0006650                             | 0694  | 14935             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 123                         |                 | OPS          | 0615               | 0781                | 3505              | 2735                  |                                     |   | 14928             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 0700               | 0663                | 3502              | 2748                  | 0007212                             | 0773  | 14899             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 0800               | 0584                | 3500              | 2759                  | 0006146                             | 0840  | 14876             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 123                         |                 | OPS          | 0830               | 0560                | 3499              | 2762                  |                                     |   | 14872             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 0900               | 0526                | 3499              | 2766                  | 0005547                             | 0899  | 14870             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 1000               | 0485                | 3499              | 2771                  | 0005117                             | 0952  | 14869             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 133                         |                 | OPS          | 11045              | 0468                | 3499              | 2773                  |                                     |   | 14870             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 1100               | 0459                | 3499              | 2773                  | 0004915                             | 1002  | 14875             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 1200               | 0443                | 3498              | 2775                  | 0004842                             | 1051  | 14885             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 1300               | 0427                | 3499              | 2776                  | 0004778                             | 1099  | 14895             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 1400               | 0411                | 3497              | 2777                  | 0004734                             | 1147  | 14905             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |                 | STO          | 1500               | 0395                | 3496              | 2778                  | 0004691                             | 1194  | 14915             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 133                         |                 | OPS          | 11582              | 0382                | 3494              | 2779                  |                                     |   | 14923             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |



TABLE VIII.—Continued

| REFERENCE<br>CITY<br>CODE  | SHIP<br>ID. NO. | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MARS<br>DEN<br>SQUARE | STATION TIME<br>(GMT) |         |                                |                                       |                   | YEAR                | ORIGINATOR'S                    |                      | DEPTH<br>TO<br>BOTTOM           | MAR.<br>DEPTH<br>OF<br>SAMPLES  | WAVE<br>OBSERVATIONS              |     |         | WEA-<br>THER<br>CODE | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |      |
|----------------------------|-----------------|--------------------|---------------------|-----------------------|-----------------------|---------|--------------------------------|---------------------------------------|-------------------|---------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|-----|---------|----------------------|----------------|---------------------------|------|
|                            |                 |                    |                     |                       | 10'                   | 1'      | MO                             | DAY                                   | HR.1/10           |                     | CRUISE<br>NO.                   | STATION<br>NUMBER    |                                 |                                 | DR                                | HGR | PER     |                      |                |                           | SEA  |
|                            |                 |                    |                     |                       |                       |         |                                |                                       |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
| 311241                     | C0              | 44095N             | 04050 W             | 149                   | 40                    | 04      | 21                             | 129                                   | 1968              | 017                 | 003                             | 4572                 |                                 | 09                              |                                   |     | 2       | X2                   | 6              | 8                         | 0008 |
|                            |                 |                    |                     |                       |                       |         |                                |                                       |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
|                            |                 |                    |                     | WATER                 |                       | WIND    |                                | BARO-<br>METER                        |                   | AIR TEMP. °C        |                                 | VIS. CODE            | NO. OBS.<br>DEPTHS              | SPECIAL<br>OBSERVATIONS         |                                   |     |         |                      |                |                           |      |
|                            |                 |                    |                     | COLOR CODE            | TRANSL. UNIT          | DIR.    | SPEED OR FORCE                 | DRY RULE                              | WET RULE          | DRY RULE            | WET RULE                        |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
|                            |                 |                    |                     |                       |                       |         | 10                             | 50                                    | 109               | 139                 | 133                             | 7                    | 14                              |                                 |                                   |     |         |                      |                |                           |      |
| MESSAGE<br>TIME<br>HR 1/10 | CAS<br>NO.      | CARD<br>TYPE       | DEPTH (m)           | T °C                  | S ‰                   | SIGMA-T | SPECIFIC VOLUME<br>ANOMALY-20° | Σ Δ σ<br>DTN. M.<br>x 10 <sup>2</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH  | 1<br>°C |                      |                |                           |      |
|                            |                 | STD                | 0000                | 1513                  | 3611                  | 2682    | 0012410                        | 0000                                  | 15092             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
| 129                        | 085             | 0000               | 1513                | 36111                 | 2682                  |         |                                |                                       | 15092             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
|                            | STD             | 0010               | 1512                | 3611                  | 2682                  | 0012432 | 0012                           |                                       | 15093             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
|                            | STD             | 0020               | 1512                | 3611                  | 2682                  | 0012453 | 0024                           |                                       | 15095             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
| 129                        | 085             | 0029               | 1512                | 36110                 | 2682                  |         |                                |                                       | 15096             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
|                            | STD             | 0030               | 1512                | 3611                  | 2682                  | 0012494 | 0037                           |                                       | 15096             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
|                            | STD             | 0050               | 1513                | 3611                  | 2682                  | 0012583 | 0062                           |                                       | 15100             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
| 129                        | 085             | 0055               | 1513                | 36109                 | 2681                  |         |                                |                                       | 15101             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
|                            | STD             | 0075               | 1512                | 3611                  | 2682                  | 0012661 | 0094                           |                                       | 15104             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
| 129                        | 085             | 0083               | 1512                | 36107                 | 2682                  |         |                                |                                       | 15105             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
|                            | STD             | 0100               | 1500                | 3608                  | 2683                  | 0012628 | 0125                           |                                       | 15104             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
| 129                        | 085             | 0109               | 1483                | 36072                 | 2683                  |         |                                |                                       | 15103             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
|                            | STD             | 0125               | 1483                | 3605                  | 2683                  | 0012620 | 0157                           |                                       | 15102             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
|                            | STD             | 0150               | 1464                | 3600                  | 2684                  | 0012628 | 0188                           |                                       | 15099             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
| 129                        | 085             | 0165               | 1451                | 35972                 | 2685                  |         |                                |                                       | 15097             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
|                            | STD             | 0200               | 1417                | 3598                  | 2685                  | 0012663 | 0251                           |                                       | 15091             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
| 129                        | 085             | 0219               | 1396                | 35639                 | 2686                  |         |                                |                                       | 15087             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
|                            | STD             | 0250               | 1352                | 3580                  | 2692                  | 0012141 | 0313                           |                                       | 15077             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
|                            | STD             | 0300               | 1286                | 3572                  | 2699                  | 0011545 | 0373                           |                                       | 15062             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
| 129                        | 085             | 0329               | 1251                | 35500                 | 26900                 |         |                                |                                       |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
|                            | STD             | 0400               | 1160                | 3553                  | 2703                  | 0011358 | 0487                           |                                       | 15043             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
| 129                        | 085             | 0438               | 1136                | 35440                 | 2707                  |         |                                |                                       | 15030             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
|                            | STD             | 0500               | 0991                | 3525                  | 2718                  | 0010020 | 0594                           |                                       | 14986             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
| 129                        | 085             | 0550               | 0862                | 35147                 | 2727                  |         |                                |                                       | 14956             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
|                            | STD             | 0600               | 0812                | 3510                  | 2735                  | 0008440 | 0666                           |                                       | 14934             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
| 129                        | 085             | 0660               | 0727                | 35043                 | 2744                  |         |                                |                                       | 14910             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
|                            | STD             | 0700               | 0660                | 3503                  | 2749                  | 0007190 | 0764                           |                                       | 14898             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
|                            | STD             | 0800               | 0582                | 3501                  | 2760                  | 0006071 | 0830                           |                                       | 14876             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
| 129                        | 085             | 0886               | 0519                | 34989                 | 2767                  |         |                                |                                       | 14864             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
|                            | STD             | 0900               | 0514                | 3499                  | 2767                  | 0005406 | 0887                           |                                       | 14864             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
|                            | STD             | 1000               | 0462                | 3499                  | 2771                  | 0005111 | 0940                           |                                       | 14868             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
|                            | STD             | 1100               | 0454                | 3499                  | 2774                  | 0004866 | 0990                           |                                       | 14873             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
| 129                        | 085             | 1123               | 0448                | 34985                 | 2774                  |         |                                |                                       | 14874             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
|                            | STD             | 1200               | 0430                | 3498                  | 2776                  | 0004681 | 1038                           |                                       | 14880             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
|                            | STD             | 1300               | 0411                | 3498                  | 2778                  | 0004561 | 1084                           |                                       | 14889             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
|                            | STD             | 1400               | 0396                | 3497                  | 2779                  | 0004490 | 1129                           |                                       | 14899             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
|                            | STD             | 1500               | 0385                | 3497                  | 2780                  | 0004480 | 1174                           |                                       | 14911             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |
| 129                        | 085             | 1505               | 0377                | 34957                 | 2780                  |         |                                |                                       | 14937             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |      |

| REFERENCE<br>CITY<br>CODE  | SHIP<br>ID. NO. | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MARS<br>DEN<br>SQUARE | STATION TIME<br>(GMT) |         |                                |                                       |                   | YEAR                | ORIGINATOR'S                    |                      | DEPTH<br>TO<br>BOTTOM           | MAR.<br>DEPTH<br>OF<br>SAMPLES  | WAVE<br>OBSERVATIONS              |     |         | WEA-<br>THER<br>CODE | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |     |
|----------------------------|-----------------|--------------------|---------------------|-----------------------|-----------------------|---------|--------------------------------|---------------------------------------|-------------------|---------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|-----|---------|----------------------|----------------|---------------------------|-----|
|                            |                 |                    |                     |                       | 10'                   | 1'      | MO                             | DAY                                   | HR.1/10           |                     | CRUISE<br>NO.                   | STATION<br>NUMBER    |                                 |                                 | DR                                | HGR | PER     |                      |                |                           | SEA |
|                            |                 |                    |                     |                       |                       |         |                                |                                       |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 311241                     | C0              | 4355 N             | 04057 W             | 149                   | 30                    | 04      | 26                             | 173                                   | 1968              | 017                 | 009                             | 4581                 |                                 | 35                              |                                   |     | 7       | X0                   | 0              | 0009                      |     |
|                            |                 |                    |                     |                       |                       |         |                                |                                       |                   |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            |                 |                    |                     | WATER                 |                       | WIND    |                                | BARO-<br>METER                        |                   | AIR TEMP. °C        |                                 | VIS. CODE            | NO. OBS.<br>DEPTHS              | SPECIAL<br>OBSERVATIONS         |                                   |     |         |                      |                |                           |     |
|                            |                 |                    |                     | COLOR CODE            | TRANSL. UNIT          | DIR.    | SPEED OR FORCE                 | DRY RULE                              | WET RULE          | DRY RULE            | WET RULE                        |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            |                 |                    |                     |                       |                       |         | 34                             | 520                                   | 227               | 139                 | 139                             | 7                    | 14                              |                                 |                                   |     |         |                      |                |                           |     |
| MESSAGE<br>TIME<br>HR 1/10 | CAS<br>NO.      | CARD<br>TYPE       | DEPTH (m)           | T °C                  | S ‰                   | SIGMA-T | SPECIFIC VOLUME<br>ANOMALY-20° | Σ Δ σ<br>DTN. M.<br>x 10 <sup>2</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH  | 1<br>°C |                      |                |                           |     |
|                            |                 | STD                | 0000                | 1521                  | 3610                  | 2679    | 0012645                        | 0000                                  | 15094             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 173                        | 085             | 0000               | 1521                | 36103                 | 2679                  |         |                                |                                       | 15094             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD             | 0010               | 1519                | 3610                  | 2680                  | 0012622 | 0012                           |                                       | 15095             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD             | 0020               | 1516                | 3610                  | 2680                  | 0012617 | 0025                           |                                       | 15096             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 173                        | 085             | 0024               | 1515                | 36101                 | 2680                  |         |                                |                                       | 15097             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD             | 0030               | 1515                | 3610                  | 2680                  | 0012621 | 0037                           |                                       | 15097             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD             | 0050               | 1513                | 3610                  | 2681                  | 0012656 | 0063                           |                                       | 15100             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 173                        | 085             | 0055               | 1512                | 36099                 | 2681                  |         |                                |                                       | 15100             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD             | 0075               | 1510                | 3610                  | 2681                  | 0012679 | 0094                           |                                       | 15103             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 173                        | 085             | 0083               | 1504                | 36099                 | 2683                  |         |                                |                                       | 15102             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD             | 0100               | 1475                | 3606                  | 2686                  | 0012290 | 0126                           |                                       | 15096             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 173                        | 085             | 0109               | 1464                | 36040                 | 2687                  |         |                                |                                       | 15093             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD             | 0125               | 1440                | 3599                  | 2688                  | 0012169 | 0156                           |                                       | 15087             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD             | 0150               | 1413                | 3592                  | 2689                  | 0012164 | 0187                           |                                       | 15082             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 173                        | 085             | 0164               | 1403                | 35899                 | 2689                  |         |                                |                                       | 15061             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD             | 0200               | 1400                | 3589                  | 2689                  | 0012252 | 0248                           |                                       | 15086             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 173                        | 085             | 0216               | 1397                | 35839                 | 2690                  |         |                                |                                       | 15088             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD             | 0250               | 1385                | 3583                  | 2690                  | 0012349 | 0309                           |                                       | 15092             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD             | 0300               | 1373                | 3585                  | 2692                  | 0012329 | 0371                           |                                       | 15093             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 173                        | 085             | 0327               | 1351                | 35807                 | 2693                  |         |                                |                                       | 15089             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD             | 0400               | 1261                | 3561                  | 2696                  | 0011914 | 0492                           |                                       | 15065             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 173                        | 085             | 0440               | 1161                | 35496                 | 2703                  |         |                                |                                       | 15047             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD             | 0500               | 1036                | 3528                  | 2712                  | 0010658 | 0605                           |                                       | 15003             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 173                        | 085             | 0549               | 0945                | 35162                 | 2715                  |         |                                |                                       | 14976             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD             | 0600               | 0857                | 3510                  | 2728                  | 0009131 | 0704                           |                                       | 14951             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 173                        | 085             | 0652               | 0751                | 35052                 | 2736                  |         |                                |                                       | 14930             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD             | 0700               | 0721                | 3504                  | 2744                  | 0007671 | 0786                           |                                       | 14914             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD             | 0800               | 0615                | 3501                  | 2756                  | 0007649 | 0859                           |                                       | 14889             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 173                        | 085             | 0847               | 0554                | 34996                 | 2763                  |         |                                |                                       | 14876             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD             | 0900               | 0541                | 3499                  | 2764                  | 0005728 | 0920                           |                                       | 14876             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD             | 1000               | 0496                | 3499                  | 2769                  | 0005295 | 0975                           |                                       | 14874             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD             | 1100               | 0456                | 3498                  | 2773                  | 0004966 | 1026                           |                                       | 14875             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 173                        | 085             | 1104               | 0457                | 34980                 | 2773                  |         |                                |                                       | 14875             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD             | 1200               | 0443                | 3497                  | 2774                  | 0004922 | 1076                           |                                       | 14885             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD             | 1300               | 0429                | 3497                  | 2775                  | 0004931 | 1125                           |                                       | 14876             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD             | 1400               | 0415                | 3496                  | 2776                  | 0004952 | 1173                           |                                       | 14907             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
|                            | STD             | 1500               | 0401                | 3495                  | 2777                  | 0004867 | 1222                           |                                       | 14916             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |
| 173                        | 085             | 1505               | 0380                | 34842                 | 2779                  |         |                                |                                       | 14933             |                     |                                 |                      |                                 |                                 |                                   |     |         |                      |                |                           |     |



TABLE VIII.—Continued

| REFERENCE<br>CITY<br>CODE   | SHIP<br>CODE  | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10  | WAVE<br>SQUARE         | STATION TIME<br>(GMT) |             |   | YEAR                                   | ORIGINATOR'S            |                     | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLE | WAVE<br>OBSERVATIONS            |                                 |                                   | WEA-<br>THER<br>CODE | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|---|---------------|--------------------|----------------------|------------------------|-----------------------|-------------|---|--|-------------------------|---------------------|---------------------------------|-------------------------------|---------------------------------|---------------------------------|-----------------------------------|----------------------|----------------|---------------------------|------|-------|--|------|--|------------------------|--------------|--|-------------|----------------------|-------------------------|---------------|---------------|------|----------------------|-------------|-------------|--|--|----|-----|-----|-----|-----|---|----|--|
|   |               |                    |                      |                        | 10'                   | 1'          | MO DAY HR. 1/10                           |  | CRUISE<br>NO.           | STATION<br>NUMBER   |                                 |                               | DR.                             | HG                              | PER                               |                      |                |                           | SEA  |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
| 311241  | C0            | 4353 N             | 04100 W              | 147                    | 31                    | 04          | 27 13                                     | 1959                                   | 017                     | 010                 | 4550                            | 02                            |                                 |                                 |                                   | 3                    | X1             | 6 6 6                     | 0010 |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
| <table><tr><th colspan="2">WATER</th><th colspan="2">WIND</th><th rowspan="2">BARO-<br/>METER<br/>(mb)</th><th colspan="2">AIR TEMP. °C</th><th rowspan="2">VIL<br/>CODE</th><th rowspan="2">NO.<br/>OBS.<br/>DEPTH</th><th rowspan="2">SPECIAL<br/>OBSERVATIONS</th></tr><tr><th>COLOR<br/>CODE</th><th>TRANS-<br/>MIT</th><th>DIR.</th><th>SPEED<br/>OR<br/>FORCE</th><th>DBT<br/>BULB</th><th>WET<br/>BULB</th></tr><tr><td></td><td></td><td>04</td><td>530</td><td>224</td><td>120</td><td>138</td><td>7</td><td>14</td><td></td></tr></table> |               |                    |                      |                        |                       |             |   |  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      | WATER |  | WIND |  | BARO-<br>METER<br>(mb) | AIR TEMP. °C |  | VIL<br>CODE | NO.<br>OBS.<br>DEPTH | SPECIAL<br>OBSERVATIONS | COLOR<br>CODE | TRANS-<br>MIT | DIR. | SPEED<br>OR<br>FORCE | DBT<br>BULB | WET<br>BULB |  |  | 04 | 530 | 224 | 120 | 138 | 7 | 14 |  |
| WATER   |               | WIND               |                      | BARO-<br>METER<br>(mb) | AIR TEMP. °C          |             | VIL<br>CODE                               | NO.<br>OBS.<br>DEPTH                   | SPECIAL<br>OBSERVATIONS |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
| COLOR<br>CODE   | TRANS-<br>MIT | DIR.               | SPEED<br>OR<br>FORCE |                        | DBT<br>BULB           | WET<br>BULB |   |  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   |               | 04                 | 530                  | 224                    | 120                   | 138         | 7   | 14                                     |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
| MESSAGE<br>TIME<br>HR. 1/10   | CARD<br>NO.   | CARD<br>TYPE       | DEPTH (m)            | T °C                   | S ‰                   | SIGMA-T     | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> | S.D.D.<br>OWN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY       | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l          | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH                   | SCT            |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
| 189   | STO           | 0000               | 1524                 | 3607                   | 2677                  | 0012626     | 0000                                      | 15095                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | DBS           | 0000               | 1524                 | 3607                   | 2677                  |             |   | 15095                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | STO           | 0010               | 1513                 | 3606                   | 2650                  | 0012645     | 0012                                      | 15093                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
| 189   | STO           | 0020               | 1503                 | 3608                   | 2661                  | 0012526     | 0025                                      | 15091                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | DBS           | 0025               | 1500                 | 36074                  | 2662                  |             |   | 15091                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | STO           | 0030               | 1507                 | 3607                   | 2682                  | 0012444     | 0037                                      | 15092                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
| 189   | STO           | 0050               | 1458                 | 3607                   | 2682                  | 0012519     | 0062                                      | 15095                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | DBS           | 0051               | 1458                 | 36075                  | 2682                  |             |   | 15095                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | STO           | 0075               | 1497                 | 3636                   | 2663                  | 0012500     | 0074                                      | 15099                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
| 189   | DBS           | 0075               | 1497                 | 36075                  | 2683                  |             |   | 15099                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | STO           | 0100               | 1484                 | 3604                   | 2683                  | 0012607     | 0125                                      | 15098                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | DBS           | 0103               | 1482                 | 36038                  | 2683                  |             |   | 15098                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
| 189   | STO           | 0125               | 1444                 | 3595                   | 2694                  | 0012604     | 0157                                      | 15090                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | STO           | 0150               | 1422                 | 3599                   | 2665                  | 0012572     | 0188                                      | 15095                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | DBS           | 0153               | 420                  | 35388                  | 2685                  |             |   | 15084                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
| 189   | STO           | 0200               | 412                  | 3591                   | 2688                  | 0012409     | 0251                                      | 15090                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | DBS           | 0205               | 1411                 | 35979                  | 2688                  |             |   | 15090                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | STO           | 0250               | 1397                 | 3588                   | 2699                  | 0012453     | 0313                                      | 15093                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
| 189   | STO           | 0300               | 1370                 | 3542                   | 2670                  | 0012462     | 0375                                      | 15091                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | DBS           | 0307               | 1365                 | 35810                  | 2690                  |             |   | 15091                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | STO           | 0400               | 1264                 | 3565                   | 2694                  | 0012300     | 0499                                      | 15077                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
| 189   | DBS           | 0407               | 1272                 | 35625                  | 2695                  |             |   | 15074                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | STO           | 0500               | 1011                 | 3522                   | 2712                  | 0010613     | 0614                                      | 14993                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | DBS           | 0511               | 0988                 | 35130                  | 2714                  |             |   | 14986                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
| 189   | STO           | 0600               | 3866                 | 3510                   | 2727                  | 0009250     | 0713                                      | 14994                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | DBS           | 0608               | 3855                 | 35097                  | 2729                  |             |   | 14991                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | STO           | 0700               | 3657                 | 3504                   | 2748                  | 0007273     | 0736                                      | 14905                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
| 189   | STO           | 0800               | 3574                 | 3500                   | 2761                  | 0005967     | 0862                                      | 14872                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | DBS           | 0816               | 3559                 | 35001                  | 2763                  |             |   | 14869                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | STO           | 0900               | 0527                 | 3500                   | 2767                  | 0005486     | 0919                                      | 14870                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
| 189   | STO           | 1000               | 0493                 | 3500                   | 2771                  | 0005147     | 0972                                      | 14873                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | DBS           | 11031              | 0484                 | 35003                  | 2772                  |             |   | 14874                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | STO           | 1100               | 0465                 | 3500                   | 2774                  | 0004894     | 1022                                      | 14878                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
| 189   | STO           | 1200               | 0441                 | 3500                   | 2776                  | 0004729     | 1070                                      | 14884                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | STO           | 1300               | 0422                 | 3499                   | 2777                  | 0004643     | 1117                                      | 14893                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | STO           | 1400               | 0403                 | 3498                   | 2778                  | 0004535     | 1164                                      | 14904                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
| 189   | STO           | 1500               | 0398                 | 3496                   | 2778                  | 0004711     | 1210                                      | 14917                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   |               | 11541              | 0396                 | 34954                  | 2778                  |             |   | 14922                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |

| REFERENCE<br>CITY<br>CODE   | SHIP<br>CODE  | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10  | WAVE<br>SQUARE         | STATION TIME<br>(GMT) |             |   | YEAR                                   | ORIGINATOR'S            |                     | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLE | WAVE<br>OBSERVATIONS            |                                 |                                   | WEA-<br>THER<br>CODE | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|---|---------------|--------------------|----------------------|------------------------|-----------------------|-------------|---|--|-------------------------|---------------------|---------------------------------|-------------------------------|---------------------------------|---------------------------------|-----------------------------------|----------------------|----------------|---------------------------|------|-------|--|------|--|------------------------|--------------|--|-------------|----------------------|-------------------------|---------------|---------------|------|----------------------|-------------|-------------|--|--|----|-----|-----|-----|-----|---|----|--|
|   |               |                    |                      |                        | 10'                   | 1'          | MO DAY HR. 1/10                           |  | CRUISE<br>NO.           | STATION<br>NUMBER   |                                 |                               | DR.                             | HG                              | PER                               |                      |                |                           | SEA  |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
| 311241  | CJ            | 4358 N             | 040595 W             | 149                    | 30                    | 04          | 28 127                                    | 1958                                   | 017                     | 011                 | 4654                            | 08                            |                                 |                                 |                                   | 3                    | X5             | 0 8                       | 0011 |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
| <table><tr><th colspan="2">WATER</th><th colspan="2">WIND</th><th rowspan="2">BARO-<br/>METER<br/>(mb)</th><th colspan="2">AIR TEMP. °C</th><th rowspan="2">VIL<br/>CODE</th><th rowspan="2">NO.<br/>OBS.<br/>DEPTH</th><th rowspan="2">SPECIAL<br/>OBSERVATIONS</th></tr><tr><th>COLOR<br/>CODE</th><th>TRANS-<br/>MIT</th><th>DIR.</th><th>SPEED<br/>OR<br/>FORCE</th><th>DBT<br/>BULB</th><th>WET<br/>BULB</th></tr><tr><td></td><td></td><td>08</td><td>514</td><td>196</td><td>140</td><td>116</td><td>7</td><td>14</td><td></td></tr></table> |               |                    |                      |                        |                       |             |   |  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      | WATER |  | WIND |  | BARO-<br>METER<br>(mb) | AIR TEMP. °C |  | VIL<br>CODE | NO.<br>OBS.<br>DEPTH | SPECIAL<br>OBSERVATIONS | COLOR<br>CODE | TRANS-<br>MIT | DIR. | SPEED<br>OR<br>FORCE | DBT<br>BULB | WET<br>BULB |  |  | 08 | 514 | 196 | 140 | 116 | 7 | 14 |  |
| WATER   |               | WIND               |                      | BARO-<br>METER<br>(mb) | AIR TEMP. °C          |             | VIL<br>CODE                               | NO.<br>OBS.<br>DEPTH                   | SPECIAL<br>OBSERVATIONS |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
| COLOR<br>CODE   | TRANS-<br>MIT | DIR.               | SPEED<br>OR<br>FORCE |                        | DBT<br>BULB           | WET<br>BULB |   |  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   |               | 08                 | 514                  | 196                    | 140                   | 116         | 7   | 14                                     |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
| MESSAGE<br>TIME<br>HR. 1/10   | CARD<br>NO.   | CARD<br>TYPE       | DEPTH (m)            | T °C                   | S ‰                   | SIGMA-T     | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> | S.D.D.<br>OWN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY       | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l          | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH                   | SCT            |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
| 127   | STO           | 0000               | 1508                 | 3610                   | 2682                  | 0012401     | 0000                                      | 15090                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | DBS           | 0000               | 1508                 | 36098                  | 2682                  |             |   | 15090                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | STO           | 0010               | 1508                 | 3610                   | 2682                  | 0012441     | 0012                                      | 15092                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
| 127   | STO           | 0020               | 1509                 | 3610                   | 2682                  | 0012472     | 0024                                      | 15093                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | DBS           | 0028               | 1509                 | 36095                  | 2682                  |             |   | 15095                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | STO           | 0030               | 1503                 | 3610                   | 2682                  | 0012512     | 0037                                      | 15095                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
| 127   | STO           | 0050               | 1510                 | 3610                   | 2681                  | 0012601     | 0062                                      | 15099                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | DBS           | 0055               | 1510                 | 36097                  | 2681                  |             |   | 15100                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | STO           | 0075               | 1497                 | 3607                   | 2682                  | 0012623     | 0094                                      | 15098                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
| 127   | DBS           | 0093               | 1493                 | 36053                  | 2682                  |             |   | 15098                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | STO           | 0100               | 1490                 | 3605                   | 2682                  | 0012653     | 0125                                      | 15100                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | DBS           | 0110               | 1486                 | 36046                  | 2683                  |             |   | 15100                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
| 127   | STO           | 0125               | 1468                 | 3600                   | 2683                  | 0012652     | 0157                                      | 15096                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | STO           | 0150               | 1444                 | 3594                   | 2684                  | 0012659     | 0188                                      | 15092                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | DBS           | 0165               | 1433                 | 35910                  | 2644                  |             |   | 15091                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
| 127   | STO           | 0200               | 1428                 | 3592                   | 2660                  | 0012640     | 0252                                      | 15095                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | DBS           | 0219               | 1423                 | 35920                  | 2687                  |             |   | 15097                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | STO           | 0250               | 1407                 | 3599                   | 2683                  | 0012571     | 0315                                      | 15096                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
| 127   | STO           | 0300               | 1392                 | 3595                   | 2649                  | 0012541     | 0377                                      | 15096                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | DBS           | 0331               | 1367                 | 35617                  | 2691                  |             |   | 15095                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | STO           | 0400               | 1204                 | 3553                   | 2700                  | 0011695     | 0499                                      | 15050                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
| 127   | DBS           | 0442               | 1123                 | 35994                  | 2706                  |             |   | 15025                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | STO           | 0500               | 1032                 | 3528                   | 2713                  | 0011553     | 0610                                      | 15001                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | DBS           | 0553               | 0955                 | 35131                  | 2722                  |             |   | 14973                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
| 127   | STO           | 0600               | 0820                 | 3509                   | 2733                  | 0008629     | 0706                                      | 14937                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | DBS           | 0657               | 0700                 | 35006                  | 2744                  |             |   | 14901                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | STO           | 0700               | 0667                 | 3500                   | 2744                  | 0007115     | 0784                                      | 14893                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
| 127   | STO           | 0900               | 0588                 | 3500                   | 2759                  | 0006170     | 0951                                      | 14878                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | DBS           | 0946               | 0573                 | 35000                  | 2755                  |             |   | 14870                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | STO           | 0900               | 0527                 | 3500                   | 2766                  | 0005512     | 0909                                      | 14870                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
| 127   | STO           | 1000               | 0487                 | 3499                   | 2770                  | 0005203     | 0963                                      | 14870                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | STO           | 1100               | 0453                 | 3497                   | 2773                  | 0004901     | 1014                                      | 14872                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | DBS           | 1117               | 0440                 | 34970                  | 2773                  |             |   | 14873                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
| 127   | STO           | 1200               | 0420                 | 3496                   | 2775                  | 0004763     | 1062                                      | 14878                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | STO           | 1300               | 0404                 | 3495                   | 2777                  | 0004604     | 1109                                      | 14885                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | STO           | 1400               | 0365                 | 3495                   | 2778                  | 0004599     | 1156                                      | 14896                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
| 127   | STO           | 1500               | 0380                 | 3494                   | 2779                  | 0004601     | 1202                                      | 14909                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |
|   | DBS           | 11671              | 0379                 | 34959                  | 2778                  |             |   | 14937                                  |                         |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |       |  |      |  |                        |              |  |             |                      |                         |               |               |      |                      |             |             |  |  |    |     |     |     |     |   |    |  |



TABLE VIII.—Continued

| REFERENCE<br>CITY<br>CODE  | SHIP<br>ID. NO. | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MARS DEN<br>SQUARE<br>MILES | STATION TIME<br>IGMT |                                |                           | YEAR                 | ORIGINATOR'S         |                                 | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>S'WATHS  | WAVE<br>OBSERVATIONS            |                                   |     |         | WEA-<br>THER<br>CODE | CLOUD<br>CODES | NDDC<br>STATION<br>NUMBER |  |
|----------------------------|-----------------|--------------|--------------------|---------------------|-----------------------------|----------------------|--------------------------------|---------------------------|----------------------|----------------------|---------------------------------|-----------------------|---------------------------------|---------------------------------|-----------------------------------|-----|---------|----------------------|----------------|---------------------------|--|
|                            |                 |              |                    |                     |                             | 10°                  | 1°                             | MO DAY NR 1/10            |                      | CRUISE<br>NO.        | STATION<br>NUMBER               |                       |                                 | DIR                             | HGT                               | PER | SEA     |                      |                |                           |  |
| 311241                     |                 | C0           | 4400 N             | 04107 N             |                             | 149                  | 41                             | 0-30 150 1958             |                      | D17                  | 012                             | 4572                  |                                 | 10                              |                                   |     | 3       | 15                   | 4 0            | 0012                      |  |
|                            |                 |              |                    |                     |                             |                      |                                |                           |                      |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |
|                            |                 |              |                    |                     |                             | WATER                |                                | WIND                      |                      | BARO-<br>METER<br>mm | AIR TEMP. °C                    |                       | VIL<br>CODE                     | NO.<br>OBS.<br>DEPTHS           | SPECIAL<br>OBSERVATIONS           |     |         |                      |                |                           |  |
|                            |                 |              |                    |                     |                             | COLOR<br>CODE        | TEMP<br>(°C)                   | DIR                       | SPEED<br>OR<br>FORCE |                      | DRT<br>BUB                      | WET<br>BUB            |                                 |                                 |                                   |     |         |                      |                |                           |  |
|                            |                 |              |                    |                     |                             |                      | 15                             | S07                       | 047                  |                      | 151                             | 132                   | 7                               | 14                              |                                   |     |         |                      |                |                           |  |
| MESSING<br>TIME<br>HR 1/10 | CASE<br>NO.     | CARD<br>TYPE | DEPTH (m)          | T °C                | S ‰                         | SIGMA-T              | SPECIFIC VOLUME<br>ANOMALY-20° | Σ Δ D<br>DYN. M.<br>± 10' | SOUND<br>VELOCITY    | O <sub>2</sub> ml/l  | PO <sub>2</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l  | NO <sub>2</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH  | S<br>°C |                      |                |                           |  |
|                            |                 | STD          | 0303               | 1605                | 3613                        | 2667                 | 0013830                        | 0000                      | 15121                |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |
| 156                        | ORS             | 0000         | 1605               | 3613                | 2667                        |                      |                                |                           | 15121                |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |
|                            | STD             | 0010         | 1592               | 3618                | 2669                        | 0013627              | 0013                           |                           | 15119                |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |
|                            | STD             | 0020         | 1583               | 3618                | 2671                        | 0013496              | 0027                           |                           | 15118                |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |
| 156                        | ORS             | 0023         | 1576               | 36175               | 2672                        |                      |                                |                           | 15117                |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |
|                            | STD             | 0030         | 1578               | 3614                | 2672                        | 0013438              | 0040                           |                           | 15118                |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |
|                            | STD             | 0050         | 1573               | 3618                | 2672                        | 0013464              | 0067                           |                           | 15121                |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |
| 156                        | ORS             | 0055         | 1573               | 36170               | 2672                        |                      |                                |                           | 15122                |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |
|                            | STD             | 0075         | 1571               | 3616                | 2672                        | 0013526              | 0101                           |                           | 15123                |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |
| 156                        | ORS             | 0343         | 1565               | 36148               | 2673                        |                      |                                |                           | 15122                |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |
|                            | STD             | 0100         | 1544               | 3610                | 2674                        | 0013430              | 0135                           |                           | 15118                |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |
| 156                        | ORS             | 0110         | 1532               | 36031               | 2675                        |                      |                                |                           | 15115                |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |
|                            | STD             | 0125         | 1510               | 3605                | 2676                        | 0013304              | 0168                           |                           | 15113                |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |
|                            | STD             | 0150         | 1452               | 3601                | 2678                        | 0013213              | 0201                           |                           | 15106                |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |
| 156                        | ORS             | 0166         | 1470               | 35977               | 2679                        |                      |                                |                           | 15106                |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |
|                            | STD             | 0200         | 1453               | 3592                | 2680                        | 0013144              | 0267                           |                           | 15103                |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |
| 156                        | ORS             | 10219        | 1437               | 35890               | 2681                        |                      |                                |                           | 15101                |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |
|                            | STD             | 0250         | 1412               | 3586                | 2684                        | 0012906              | 0332                           |                           | 15097                |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |
|                            | STD             | 0300         | 1357               | 3578                | 2690                        | 0012500              | 0396                           |                           | 15087                |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |
| 156                        | ORS             | 0331         | 1315               | 35716               | 2693                        |                      |                                |                           | 15077                |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |
|                            | STD             | 0400         | 1153               | 3551                | 2702                        | 0011540              | 0516                           |                           | 15044                |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |
| 156                        | ORS             | 0446         | 1103               | 35360               | 2708                        |                      |                                |                           | 15019                |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |
|                            | STD             | 0500         | 0975               | 3521                | 2716                        | 0010020              | 0624                           |                           | 14979                |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |
| 156                        | ORS             | 0552         | 0668               | 35104               | 2727                        |                      |                                |                           | 14947                |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |
|                            | STD             | 0600         | 0792               | 3507                | 2736                        | 0008299              | 0715                           |                           | 14926                |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |
| 156                        | ORS             | 10656        | 0715               | 35046               | 2745                        |                      |                                |                           | 14905                |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |
|                            | STD             | 0700         | 0669               | 3503                | 2751                        | 0006939              | 0792                           |                           | 14894                |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |
|                            | STD             | 0800         | 0580               | 3501                | 2761                        | 0006023              | 0856                           |                           | 14875                |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |
| 156                        | ORS             | 0883         | 0525               | 34994               | 2766                        |                      |                                |                           | 14866                |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |
|                            | STD             | 0900         | 0519               | 3499                | 2767                        | 0005443              | 0914                           |                           | 14867                |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |
|                            | STD             | 1000         | 0499               | 3499                | 2770                        | 0005171              | 0967                           |                           | 14871                |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |
|                            | STD             | 1100         | 0462               | 3499                | 2773                        | 0004965              | 1017                           |                           | 14876                |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |
| 156                        | ORS             | 11110        | 0450               | 34986               | 2773                        |                      |                                |                           | 14877                |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |
|                            | STD             | 1200         | 0438               | 3499                | 2775                        | 0004801              | 1066                           |                           | 14883                |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |
|                            | STD             | 1300         | 0419               | 3497                | 2777                        | 0004650              | 1114                           |                           | 14892                |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |
|                            | STD             | 1400         | 0403               | 3497                | 2778                        | 0004635              | 1160                           |                           | 14902                |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |
|                            | STD             | 1500         | 0361               | 3496                | 2778                        | 0004639              | 1207                           |                           | 14913                |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |
| 156                        | ORS             | 11656        | 0379               | 34940               | 2778                        |                      |                                |                           | 14935                |                      |                                 |                       |                                 |                                 |                                   |     |         |                      |                |                           |  |



TABLE VIII.—Continued

| MESSNGR<br>TIME<br>HR / MIN | CAST<br>NO. | CARD<br>TYPE | DEPTH (m) | T °C | S %   | SIGMA-T | SPECIFIC VOLUME<br>ANDALST-815? | $\frac{S}{\Delta D}$<br>DTN, M<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>µg - ml/l | TOTAL-P<br>µg - ml/l | NO <sub>3</sub> -N<br>µg - ml/l | NO <sub>3</sub> -N<br>µg - ml/l | SiO <sub>4</sub> -Si<br>µg - ml/l | pH | S |
|-----------------------------|-------------|--------------|-----------|------|-------|---------|---------------------------------|---|-------------------|---------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|----|---|
|                             |             | STD          | 0000      | 1524 | 3605  | 2677    | 0012671                         | 0000  | 15075             |                     |                                 |                      |                                 |                                 |                                   |    |   |
| 193                         |             | ORS          | 0000      | 1546 | 36040 | 2677    |                                 |   | 15075             |                     |                                 |                      |                                 |                                 |                                   |    |   |
| 193                         |             | ORS          | 0003      | 1516 | 35063 | 2677    |                                 |   | 15093             |                     |                                 |                      |                                 |                                 |                                   |    |   |
|                             |             | STD          | 0010      | 1517 | 3606  | 2675    | 0012637                         | 0012  | 15073             |                     |                                 |                      |                                 |                                 |                                   |    |   |
|                             |             | STD          | 0020      | 1457 | 3603  | 2679    | 0012761                         | 0025  | 15089             |                     |                                 |                      |                                 |                                 |                                   |    |   |
|                             |             | STD          | 0030      | 1434 | 3600  | 2680    | 0012692                         | 0036  | 15066             |                     |                                 |                      |                                 |                                 |                                   |    |   |
|                             |             | STD          | 0050      | 1405 | 3557  | 2682    | 0012540                         | 0063  | 15063             |                     |                                 |                      |                                 |                                 |                                   |    |   |
| 193                         |             | ORS          | 0055      | 1403 | 35572 | 2682    |                                 |   | 15033             |                     |                                 |                      |                                 |                                 |                                   |    |   |
|                             |             | STD          | 0075      | 1411 | 3595  | 2684    | 0012405                         | 0095  | 15036             |                     |                                 |                      |                                 |                                 |                                   |    |   |
| 193                         |             | ORS          | 0083      | 1450 | 35977 | 2684    |                                 |   | 15030             |                     |                                 |                      |                                 |                                 |                                   |    |   |
|                             |             | STD          | 0100      | 1444 | 3577  | 2686    | 0012303                         | 0125  | 15035             |                     |                                 |                      |                                 |                                 |                                   |    |   |
| 193                         |             | ORS          | 0111      | 1435 | 35567 | 2637    |                                 |   | 15045             |                     |                                 |                      |                                 |                                 |                                   |    |   |
|                             |             | STD          | 0125      | 1435 | 3545  | 2667    | 0012294                         | 0156  | 15066             |                     |                                 |                      |                                 |                                 |                                   |    |   |
|                             |             | STD          | 0150      | 1429 | 3534  | 2667    | 0012344                         | 0187  | 15038             |                     |                                 |                      |                                 |                                 |                                   |    |   |
| 193                         |             | ORS          | 0167      | 1425 | 35332 | 2687    |                                 |   | 15039             |                     |                                 |                      |                                 |                                 |                                   |    |   |
|                             |             | STD          | 0200      | 1382 | 3564  | 2640    | 0012245                         | 0249  | 15079             |                     |                                 |                      |                                 |                                 |                                   |    |   |
| 193                         |             | ORS          | T0222     | 1360 | 35301 | 2691    |                                 |   | 15075             |                     |                                 |                      |                                 |                                 |                                   |    |   |
|                             |             | STD          | 0250      | 1354 | 3540  | 2691    | 0012187                         | 0310  | 15078             |                     |                                 |                      |                                 |                                 |                                   |    |   |
|                             |             | STD          | 0300      | 1345 | 3579  | 2693    | 0012206                         | 0371  | 15083             |                     |                                 |                      |                                 |                                 |                                   |    |   |
| 193                         |             | ORS          | 0333      | 1234 | 35779 | 2694    |                                 |   | 15086             |                     |                                 |                      |                                 |                                 |                                   |    |   |
|                             |             | STD          | 0400      | 1175 | 3550  | 2704    | 0011284                         | 0488  | 15038             |                     |                                 |                      |                                 |                                 |                                   |    |   |
| 193                         |             | ORS          | T0444     | 1079 | 35355 | 2711    |                                 |   | 15010             |                     |                                 |                      |                                 |                                 |                                   |    |   |
|                             |             | STD          | 0500      | 0975 | 3524  | 2722    | 0004861                         | 0534  | 14980             |                     |                                 |                      |                                 |                                 |                                   |    |   |
| 193                         |             | ORS          | 0556      | 0872 | 35141 | 2729    |                                 |   | 14950             |                     |                                 |                      |                                 |                                 |                                   |    |   |
|                             |             | STD          | 0600      | 0786 | 3503  | 2736    | 0004174                         | 0684  | 14923             |                     |                                 |                      |                                 |                                 |                                   |    |   |
| 193                         |             | ORS          | T0662     | 0682 | 35007 | 2747    |                                 |   | 14893             |                     |                                 |                      |                                 |                                 |                                   |    |   |
|                             |             | STD          | 0700      | 0643 | 3500  | 2752    | 0006814                         | 0759  | 14883             |                     |                                 |                      |                                 |                                 |                                   |    |   |
|                             |             | STD          | 0800      | 0557 | 3493  | 2761    | 0005097                         | 0823  | 14865             |                     |                                 |                      |                                 |                                 |                                   |    |   |
| 193                         |             | ORS          | 0851      | 0438 | 34968 | 2767    |                                 |   | 14856             |                     |                                 |                      |                                 |                                 |                                   |    |   |
|                             |             | STD          | 0900      | 0405 | 3497  | 2768    | 0005321                         | 0879  | 14856             |                     |                                 |                      |                                 |                                 |                                   |    |   |
|                             |             | STD          | 1000      | 0466 | 3496  | 2771    | 0005032                         | 0931  | 14861             |                     |                                 |                      |                                 |                                 |                                   |    |   |
|                             |             | STD          | 1100      | 0460 | 3495  | 2773    | 0004892                         | 0981  | 14857             |                     |                                 |                      |                                 |                                 |                                   |    |   |
| 193                         |             | ORS          | T1119     | 0436 | 34955 | 2774    |                                 |   | 14868             |                     |                                 |                      |                                 |                                 |                                   |    |   |
|                             |             | STD          | 1200      | 0423 | 3495  | 2774    | 0004819                         | 1029  | 14876             |                     |                                 |                      |                                 |                                 |                                   |    |   |
|                             |             | STD          | 1300      | 0409 | 3494  | 2775    | 0004783                         | 1077  | 14887             |                     |                                 |                      |                                 |                                 |                                   |    |   |
|                             |             | STD          | 1400      | 0396 | 3494  | 2776    | 0004755                         | 1125  | 14899             |                     |                                 |                      |                                 |                                 |                                   |    |   |
|                             |             | STD          | 1500      | 0386 | 3494  | 2777    | 0004737                         | 1172  | 14911             |                     |                                 |                      |                                 |                                 |                                   |    |   |
| 193                         |             | ORS          | T1672     | 0373 | 34933 | 2778    |                                 |   | 14935             |                     |                                 |                      |                                 |                                 |                                   |    |   |
|                             |             | STD          | 1759      | 0372 | 3494  | 2779    | 0004754                         | 1291  | 14946             |                     |                                 |                      |                                 |                                 |                                   |    |   |
|                             |             | STD          | 2000      | 0367 | 3494  | 2780    | 0004835                         | 1411  | 14986             |                     |                                 |                      |                                 |                                 |                                   |    |   |
| 216                         |             | ORS          | T2051     | 0365 | 34944 | 2780    |                                 |   | 14976             |                     |                                 |                      |                                 |                                 |                                   |    |   |
|                             |             | STD          | 2500      | 0342 | 3495  | 2782    | 0004830                         | 1652  | 15063             |                     |                                 |                      |                                 |                                 |                                   |    |   |
| 216                         |             | ORS          | T2567     | 0338 | 34946 | 2783    |                                 |   | 15071             |                     |                                 |                      |                                 |                                 |                                   |    |   |
|                             |             | STD          | 3000      | 0306 | 3494  | 2785    | 0004659                         | 1890  | 15134             |                     |                                 |                      |                                 |                                 |                                   |    |   |
| 216                         |             | ORS          | 3077      | 0300 | 34940 | 2786    |                                 |   | 15144             |                     |                                 |                      |                                 |                                 |                                   |    |   |
| 216                         |             | ORS          | T3551     | 0264 | 34926 | 2788    |                                 |   | 15219             |                     |                                 |                      |                                 |                                 |                                   |    |   |
|                             |             | STD          | 4000      | 0239 | 3491  | 2789    | 0004329                         | 2339  | 15280             |                     |                                 |                      |                                 |                                 |                                   |    |   |
| 216                         |             | ORS          | T4113     | 0235 | 34911 | 2789    |                                 |   | 15298             |                     |                                 |                      |                                 |                                 |                                   |    |   |
| 216                         |             | ORS          | 4521      | 0230 | 34907 | 2789    |                                 |   | 15368             |                     |                                 |                      |                                 |                                 |                                   |    |   |
| 216                         |             | ORS          | T4622     | 0226 | 34909 | 2790    |                                 |   | 15385             |                     |                                 |                      |                                 |                                 |                                   |    |   |



TABLE VIII.—Continued

[illegible][illegible]



TABLE VIII.—Continued

| REFERENCE<br>CITY<br>CODE  | SHIP<br>ID. NO. | SHIP<br>CODE  | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MARS<br>DEN<br>SQUARE | MARS DEN<br>SQUARE |                                | STATION TIME<br>(GMT)                 |                   | YEAR                | ORIGINATOR'S                    |                      | DEPTH<br>TO<br>BOTTOM           | MAR.<br>DEPTH<br>OF FATHOMS     | WAVE<br>OBSERVATIONS              |                   |      | WEA-<br>THER<br>CODE | CLOUD<br>CODES | TO<br>STATION<br>NUMBER | NDOC<br>STATION<br>NUMBER |      |      |     |
|----------------------------|-----------------|---------------|--------------------|---------------------|-----------------------|--------------------|--------------------------------|---------------------------------------|-------------------|---------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|-------------------|------|----------------------|----------------|-------------------------|---------------------------|------|------|-----|
|                            |                 |               |                    |                     |                       | 10'                | 1"                             | MO                                    | DA                |                     | HR                              | 1/10                 |                                 |                                 | CRUISE<br>NO.                     | STATION<br>NUMBER | DIR. |                      |                |                         |                           | HGT. | PER. | SEA |
|                            |                 |               |                    |                     |                       | 10'                | 1"                             | MO                                    | DA                |                     | HR                              | 1/10                 |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
| 311241                     | CD              |               | 4435 N             | 04106 W             | 14 31                 | 05 04              | 12                             | 1955                                  |                   | 17                  | 010                             |                      | 4513                            |                                 | 03                                |                   |      | 3                    | X6             | 2 4                     |                           | 0016 |      |     |
|                            |                 |               |                    |                     |                       |                    |                                |                                       |                   |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
|                            |                 | WATER         |                    | WIND                |                       | BARO-<br>METER     |                                | AIR TEMP. °C                          |                   | VIS.                |                                 | NO. OBS.<br>DEPTH    |                                 | SPECIAL<br>OBSERVATIONS         |                                   |                   |      |                      |                |                         |                           |      |      |     |
|                            |                 | COLOR<br>CODE | TRANS.<br>UNIT     | DIR.                | SPEED<br>OF<br>FORCE  | DRY<br>BULB        | WET<br>BULB                    | DRY<br>BULB                           | WET<br>BULB       | CODE                | DRY<br>BULB                     | WET<br>BULB          | CODE                            |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
|                            |                 |               |                    | 02                  | 513                   | 221                | 149                            | 133                                   | 7                 | 14                  |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
| MESSAGE<br>TIME<br>HR 1/10 | CAS-<br>NO.     | CARD<br>TYPE  | DEPTH<br>m         | T °C                | S ‰                   | SIGMA-T            | SPECIFIC VOLUME<br>ANOMALY-20° | Σ Δ D<br>DYN. M.<br>X 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>2</sub> -N<br>μg - ml/l | SIO <sub>4</sub> -Si<br>μg - ml/l | pH                | DATE |                      |                |                         |                           |      |      |     |
| 129                        |                 | STD           | 0000               | 1574                | 3613                  | 2553               | 0013586                        | 0000                                  | 15111             |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
|                            |                 | DRS           | 0000               | 1574                | 36129                 | 2553               |                                |                                       | 15111             |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
|                            |                 | STD           | 0010               | 1555                | 3611                  | 2672               | 0013364                        | 0013                                  | 15106             |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
| 129                        |                 | CTI           | 0020               | 1527                | 3600                  | 2674               | 0013169                        | 0026                                  | 15102             |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
|                            |                 | DRS           | 0024               | 1531                | 36030                 | 2675               |                                |                                       | 15101             |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
|                            |                 | STD           | 0030               | 1524                | 36038                 | 2676               | 0013001                        | 0039                                  | 15100             |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
| 129                        |                 | STD           | 0050               | 1464                | 36034                 | 2660               | 0012763                        | 0055                                  | 15095             |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
|                            |                 | DRS           | 0050               | 1499                | 36044                 | 2630               |                                |                                       | 15093             |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
|                            |                 | STD           | 0075               | 1460                | 3596                  | 2662               | 0012636                        | 0097                                  | 15085             |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
| 129                        |                 | DRS           | 0075               | 1450                | 35960                 | 2662               |                                |                                       | 15085             |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
|                            |                 | STD           | 0100               | 1427                | 3589                  | 2684               | 0012529                        | 0126                                  | 15078             |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
|                            |                 | DRS           | 0103               | 1427                | 35892                 | 2684               |                                |                                       | 15078             |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
| 129                        |                 | STD           | 0125               | 1423                | 3581                  | 2665               | 0012473                        | 0160                                  | 15083             |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
|                            |                 | STD           | 0150               | 1423                | 3583                  | 2686               | 0012421                        | 0191                                  | 15087             |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
|                            |                 | DRS           | 0150               | 1423                | 35832                 | 2686               |                                |                                       | 15087             |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
| 129                        |                 | STD           | 0200               | 1354                | 3575                  | 2668               | 0012369                        | 0253                                  | 15069             |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
|                            |                 | DRS           | 0200               | 1354                | 35748                 | 2668               |                                |                                       | 15069             |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
|                            |                 | STD           | 0250               | 1329                | 3571                  | 2690               | 0012235                        | 0314                                  | 15066             |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
| 129                        |                 | STD           | 0300               | 1285                | 3565                  | 2694               | 0012021                        | 0375                                  | 15061             |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
|                            |                 | DRS           | 0301               | 1284                | 35646                 | 2694               |                                |                                       | 15061             |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
|                            |                 | STD           | 0400               | 1137                | 3542                  | 2706               | 0011130                        | 0491                                  | 15024             |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
| 129                        |                 | DRS           | 0402               | 1134                | 35420                 | 2706               |                                |                                       | 15023             |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
|                            |                 | STD           | 0500               | 0981                | 3527                  | 2721               | 0009750                        | 0595                                  | 14981             |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
|                            |                 | DRS           | 0504               | 0974                | 35260                 | 2722               |                                |                                       | 14981             |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
| 129                        |                 | STD           | 0600               | 0763                | 35003                 | 2737               | 0009181                        | 0685                                  | 14914             |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
|                            |                 | DRS           | 0600               | 0763                | 35024                 | 2738               |                                |                                       | 14912             |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
|                            |                 | STD           | 0700               | 0656                | 3501                  | 2751               | 0006903                        | 0760                                  | 14889             |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
| 129                        |                 | STD           | 0800               | 0575                | 3501                  | 2761               | 0005968                        | 0825                                  | 14873             |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
|                            |                 | DRS           | 0814               | 0566                | 35004                 | 2762               |                                |                                       | 14871             |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
|                            |                 | STD           | 0900               | 0526                | 3500                  | 2766               | 0005493                        | 0962                                  | 14870             |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
| 129                        |                 | STD           | 1000               | 0467                | 3499                  | 2771               | 0005131                        | 0935                                  | 14870             |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
|                            |                 | DRS           | 11024              | 0468                | 34932                 | 2772               |                                |                                       | 14870             |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
|                            |                 | STD           | 1103               | 0454                | 3493                  | 2774               | 0004656                        | 0965                                  | 14873             |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
| 129                        |                 | STD           | 1200               | 0427                | 3488                  | 2776               | 0004682                        | 1033                                  | 14879             |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
|                            |                 | STD           | 1300               | 0408                | 3477                  | 2777               | 0004596                        | 1079                                  | 14887             |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
|                            |                 | STD           | 1400               | 0395                | 3456                  | 2778               | 0004593                        | 1125                                  | 14894             |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
| 129                        |                 | STD           | 1500               | 0369                | 3495                  | 2778               | 0004663                        | 1172                                  | 14913             |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |
|                            |                 | DRS           | 11530              | 0369                | 34944                 | 2777               |                                |                                       | 14918             |                     |                                 |                      |                                 |                                 |                                   |                   |      |                      |                |                         |                           |      |      |     |

| REFERENCE<br>CITY<br>CODE  | SHIP<br>ID. NO. | SHIP<br>CODE  | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MARS DEN<br>SQUARE   | STATION TIME<br>(GMT) |                                | YEAR                                  | ORIGINATOR'S      |                     | DEPTH<br>TO<br>BOTTOM           | MAR.<br>DEPTH<br>OF FATHOMS | WAVE<br>OBSERVATIONS            |                                 |                                   | WEA-<br>THER<br>CODE | CLOUD<br>CODES | NOCC<br>STATION<br>NUMBER |
|----------------------------|-----------------|---------------|--------------------|---------------------|----------------------|-----------------------|--------------------------------|---------------------------------------|-------------------|---------------------|---------------------------------|-----------------------------|---------------------------------|---------------------------------|-----------------------------------|----------------------|----------------|---------------------------|
|                            |                 |               |                    |                     |                      | CRUISE<br>NO.         | STATION<br>NUMBER              |                                       | DIR.              | HGT.                |                                 |                             | PER.                            | SEA                             |                                   |                      |                |                           |
| 311241                     | CD              |               | 4355 N             | 04106 W             | 14 31                | 05 05 09              | 1958                           | 017                                   | 017               | 4618                |                                 | 49                          |                                 | 2                               | X1                                | 2 2                  | 0017           |                           |
|                            |                 |               |                    |                     |                      |                       |                                |                                       |                   |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |
|                            |                 | WATER         |                    | WIND                |                      | BARO-<br>METER        |                                | AIR TEMP. °C                          |                   | VIS.                |                                 | NO. OBS.<br>DEPTH           |                                 | SPECIAL<br>OBSERVATIONS         |                                   |                      |                |                           |
|                            |                 | COLOR<br>CODE | TRANS.<br>UNIT     | DIR.                | SPEED<br>OF<br>FORCE | DRY<br>BULB           | WET<br>BULB                    | DRY<br>BULB                           | WET<br>BULB       | CODE                | DRY<br>BULB                     | WET<br>BULB                 | CODE                            |                                 |                                   |                      |                |                           |
|                            |                 |               |                    | 00                  | 500                  | 200                   | 153                            | 133                                   | 7                 | 14                  |                                 |                             |                                 |                                 |                                   |                      |                |                           |
| MESSAGE<br>TIME<br>HR 1/10 | CAS-<br>NO.     | CARD<br>TYPE  | DEPTH<br>m         | T °C                | S ‰                  | SIGMA-T               | SPECIFIC VOLUME<br>ANOMALY-20° | Σ Δ D<br>DYN. M.<br>X 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l        | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>2</sub> -N<br>μg - ml/l | SIO <sub>4</sub> -Si<br>μg - ml/l | pH                   | DATE           |                           |
| 036                        |                 | STD           | 0000               | 1460                | 3560                 | 2664                  | 0013604                        | 0000                                  | 15034             |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |
|                            |                 | DRS           | 0000               | 1460                | 35399                | 2664                  |                                |                                       | 15084             |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |
|                            |                 | STD           | 0010               | 1468                | 3563                 | 2675                  | 0013119                        | 0013                                  | 15087             |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |
| 036                        |                 | STD           | 0020               | 1501                | 3603                 | 2676                  | 0012842                        | 0026                                  | 15093             |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |
|                            |                 | DRS           | 0024               | 1502                | 36038                | 2676                  |                                |                                       | 15091             |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |
|                            |                 | STD           | 0030               | 1493                | 3603                 | 2674                  | 0012763                        | 0039                                  | 15091             |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |
| 036                        |                 | DRS           | 0040               | 1484                | 36036                | 2660                  |                                |                                       | 15089             |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |
|                            |                 | STD           | 0050               | 1473                | 3601                 | 2630                  | 0012708                        | 0064                                  | 15069             |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |
|                            |                 | DRS           | 0075               | 1460                | 35575                | 2643                  |                                |                                       | 15085             |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |
| 036                        |                 | STD           | 0075               | 1456                | 3597                 | 2643                  | 0012509                        | 0096                                  | 15084             |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |
|                            |                 | DRS           | 0090               | 1417                | 3537                 | 2665                  |                                |                                       | 15074             |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |
|                            |                 | STD           | 0100               | 1416                | 3528                 | 2665                  | 0012297                        | 0127                                  | 15074             |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |
| 036                        |                 | STD           | 0125               | 1369                | 3586                 | 2647                  | 0012259                        | 0158                                  | 15073             |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |
|                            |                 | DRS           | 0147               | 1363                | 35338                | 2669                  |                                |                                       | 15071             |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |
|                            |                 | STD           | 0150               | 1361                | 3543                 | 2666                  | 0012156                        | 0198                                  | 15070             |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |
| 036                        |                 | DRS           | 0156               | 1344                | 35760                | 2691                  |                                |                                       | 15065             |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |
|                            |                 | STD           | 0200               | 1341                | 3576                 | 2691                  | 0012351                        | 0249                                  | 15065             |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |
|                            |                 | STD           | 0250               | 1301                | 3567                 | 2643                  | 0012011                        | 0309                                  | 15058             |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |
| 036                        |                 | DRS           | 0296               | 1251                | 35590                | 2697                  |                                |                                       | 15048             |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |
|                            |                 | STD           | 0300               | 1245                | 3558                 | 2697                  | 0011743                        | 0366                                  | 15047             |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |
|                            |                 | DRS           | 0345               | 1201                | 35334                | 2705                  |                                |                                       | 15010             |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |
| 036                        |                 | STD           | 0400               | 1054                | 3537                 | 2710                  | 0010691                        | 0430                                  | 15037             |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |
|                            |                 | DRS           | 0402               | 0928                | 35172                | 2723                  |                                |                                       | 14960             |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |
|                            |                 | STD           | 0500               | 0714                | 3516                 | 2724                  | 0004422                        | 0561                                  | 14956             |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |
| 036                        |                 | DRS           | 0540               | 0771                | 35028                | 2735                  |                                |                                       | 14915             |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |
|                            |                 | STD           | 0600               | 0750                | 3502                 | 2736                  | 0004125                        | 0669                                  | 14911             |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |
|                            |                 | STD           | 0700               | 0636                | 3477                 | 2751                  | 0003903                        | 0744                                  | 14930             |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |
| 036                        |                 | DRS           | 0700               | 0550                | 34945                | 2755                  |                                |                                       | 14901             |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |
|                            |                 | STD           | 0800               | 0547                | 3495                 | 2766                  | 0003903                        | 0830                                  | 14951             |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |
|                            |                 | STD           | 0900               | 0475                | 3495                 | 2766                  | 0003903                        | 0866                                  | 14853             |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |
| 036                        |                 | STD           | 1000               | 0454                | 3495                 | 2770                  | 0003903                        | 0919                                  | 14858             |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |
|                            |                 | DRS           | 11000              | 0455                | 34949                | 2770                  |                                |                                       | 14858             |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |
|                            |                 | STD           | 1100               | 0445                | 3495                 | 2772                  | 0003903                        | 0970                                  | 14869             |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |
| 036                        |                 | STD           | 1200               | 0430                | 3495                 | 2773                  | 0003946                        | 1020                                  | 14879             |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |
|                            |                 | STD           | 1300               | 0416                | 3434                 | 2775                  | 0004855                        | 1059                                  | 14830             |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |
|                            |                 | STD           | 1400               | 0401                | 3434                 | 2776                  | 0004793                        | 1117                                  | 14901             |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |
| 036                        |                 | STD           | 1500               | 0367                | 3434                 | 2777                  | 0004740                        | 1165                                  | 14911             |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |
|                            |                 | DRS           | 11500              | 0366                | 34936                | 2777                  |                                |                                       | 14912             |                     |                                 |                             |                                 |                                 |                                   |                      |                |                           |



TABLE IX.—Observed and interpolated oceanographic data for stations taken by USCGC DALLAS at Ocean Station DELTA, 6 May–28 May 1968, prepared from NODC listing No. 31-1265 DG.

| REFERENCE                  |             | SHIP CODE    | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | WASSON<br>SQUARE | STATION TIME<br>(GMT) |                                     |                                  |                   | YEAR                | ORIGINATIONS                    |                      | DEPTH<br>BOTTOM                 | MAX. DEPTH<br>OF SAMPLE         | WAVE<br>OBSERVATIONS              |     |                         | WEA-<br>TER CODE | CLOUD<br>CODES | TO   |     | NDDC<br>STATION<br>NUMBER |      |
|----------------------------|-------------|--------------|--------------------|---------------------|------------------|-----------------------|-------------------------------------|----------------------------------|-------------------|---------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|-----|-------------------------|------------------|----------------|------|-----|---------------------------|------|
| CTRY<br>CODE               | IQ.<br>NO.  |              |                    |                     | 10"              | 1"                    | MO                                  | DAY                              | HR. 1/10          |                     | CRUISE<br>NO.                   | STATION<br>NUMBER    |                                 |                                 | DIR                               | HGT | PER                     | SEA              |                | TYPE | AMT |                           |      |
| 311265                     | 0G          |              | 4401 N             | 04056 W             | 149 40           | 05                    | 06                                  | 75                               | 1968              |                     | D18                             | 001                  |                                 | 13                              | 36                                | 1   | 3                       |                  | X4             | 3    | 4   |                           | 0001 |
|                            |             |              |                    |                     | WATER            |                       | WIND                                |                                  | BARO-<br>METER    |                     | AIR TEMP. °C                    |                      | VIL CODE                        |                                 | NO. OF<br>OBS.                    |     | SPECIAL<br>OBSERVATIONS |                  |                |      |     |                           |      |
|                            |             |              |                    |                     | COLOR<br>CODE    | TRANS.<br>MM          | DIR.                                | SPEED<br>OF<br>FORCE<br>(mph)    |                   |                     | DRY<br>BULB                     | WET<br>BULB          |                                 |                                 |                                   |     |                         |                  |                |      |     |                           |      |
|                            |             |              |                    |                     | 23               | 505                   | 305                                 | 305                              | 200               | 172                 | 7                               | 14                   |                                 |                                 |                                   |     |                         |                  |                |      |     |                           |      |
| MESSAGE<br>TIME<br>HR 1/10 | CAST<br>NO. | CARD<br>TYPE | DEPTH (m)          | T °C                | S ‰              | SIGMA-T               | SPECIFIC<br>SALINITY<br>ANDWALT-20° | Σ Δ σ<br>t<br>± 10 <sup>-3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>2</sub> -P<br>µg - 0.1% | TOTAL-P<br>µg - 0.1% | NO <sub>2</sub> -N<br>µg - 0.1% | NO <sub>3</sub> -N<br>µg - 0.1% | SiO <sub>4</sub> -Si<br>µg - 0.6% | pH  | SP<br>CODE              |                  |                |      |     |                           |      |
| 175                        | ST0         | 0000         |                    | 1642                | 3611             | 2652                  | 0015194                             | 0000                             | 15132             |                     |                                 |                      |                                 |                                 |                                   |     |                         |                  |                |      |     |                           |      |
|                            | D85         | 0000         |                    | 1642                | 36113            | 2652                  |                                     |                                  | 15132             |                     |                                 |                      |                                 |                                 |                                   |     |                         |                  |                |      |     |                           |      |
|                            | ST0         | 0010         |                    | 1584                | 3611             | 2666                  | 0013950                             | 0015                             | 15115             |                     |                                 |                      |                                 |                                 |                                   |     |                         |                  |                |      |     |                           |      |
| 175                        | ST0         | 0020         |                    | 1545                | 3611             | 2675                  | 0013146                             | 0028                             | 15105             |                     |                                 |                      |                                 |                                 |                                   |     |                         |                  |                |      |     |                           |      |
|                            | D85         | 0022         |                    | 1540                | 36112            | 2676                  |                                     |                                  | 15104             |                     |                                 |                      |                                 |                                 |                                   |     |                         |                  |                |      |     |                           |      |
|                            | ST0         | 0030         |                    | 1540                | 3611             | 2676                  | 0013056                             | 0041                             | 15105             |                     |                                 |                      |                                 |                                 |                                   |     |                         |                  |                |      |     |                           |      |
| 175                        | D85         | 0047         |                    | 1536                | 36117            | 2677                  |                                     |                                  | 15107             |                     |                                 |                      |                                 |                                 |                                   |     |                         |                  |                |      |     |                           |      |
|                            | ST0         | 0050         |                    | 1534                | 3611             | 2677                  | 0013019                             | 0067                             | 15106             |                     |                                 |                      |                                 |                                 |                                   |     |                         |                  |                |      |     |                           |      |
|                            | ST0         | 0070         |                    | 1520                | 36079            | 2678                  |                                     |                                  | 15105             |                     |                                 |                      |                                 |                                 |                                   |     |                         |                  |                |      |     |                           |      |
| 175                        | D85         | 0075         |                    | 1516                | 3608             | 2678                  | 0012961                             | 0100                             | 15104             |                     |                                 |                      |                                 |                                 |                                   |     |                         |                  |                |      |     |                           |      |
|                            | D85         | 0094         |                    | 1498                | 36064            | 2681                  |                                     |                                  | 15102             |                     |                                 |                      |                                 |                                 |                                   |     |                         |                  |                |      |     |                           |      |
|                            | ST0         | 0100         |                    | 1488                | 3603             | 2681                  | 0012781                             | 0132                             | 15099             |                     |                                 |                      |                                 |                                 |                                   |     |                         |                  |                |      |     |                           |      |
| 175                        | ST0         | 0125         |                    | 1453                | 3594             | 2682                  | 0012762                             | 0164                             | 15091             |                     |                                 |                      |                                 |                                 |                                   |     |                         |                  |                |      |     |                           |      |
|                            | D85         | 0141         |                    | 1437                | 35896            | 2682                  |                                     |                                  | 15088             |                     |                                 |                      |                                 |                                 |                                   |     |                         |                  |                |      |     |                           |      |
|                            | ST0         | 0150         |                    | 1435                | 3589             | 2682                  | 0012826                             | 0196                             | 15089             |                     |                                 |                      |                                 |                                 |                                   |     |                         |                  |                |      |     |                           |      |
| 175                        | D85         | T0187        |                    | 1417                | 35881            | 2685                  |                                     |                                  | 15089             |                     |                                 |                      |                                 |                                 |                                   |     |                         |                  |                |      |     |                           |      |
|                            | ST0         | 0200         |                    | 1402                | 3586             | 2686                  | 0012536                             | 0259                             | 15086             |                     |                                 |                      |                                 |                                 |                                   |     |                         |                  |                |      |     |                           |      |
|                            | ST0         | 0250         |                    | 1344                | 3575             | 2690                  | 0012309                             | 0321                             | 15074             |                     |                                 |                      |                                 |                                 |                                   |     |                         |                  |                |      |     |                           |      |
| 175                        | D85         | 0277         |                    | 1313                | 35693            | 2692                  |                                     |                                  | 15067             |                     |                                 |                      |                                 |                                 |                                   |     |                         |                  |                |      |     |                           |      |
|                            | ST0         | 0300         |                    | 1291                | 3564             | 2692                  | 0012202                             | 0383                             | 15063             |                     |                                 |                      |                                 |                                 |                                   |     |                         |                  |                |      |     |                           |      |
|                            | D85         | 0362         |                    | 1213                | 35498            | 2697                  |                                     |                                  | 15045             |                     |                                 |                      |                                 |                                 |                                   |     |                         |                  |                |      |     |                           |      |
| 175                        | ST0         | 0400         |                    | 1148                | 3543             | 2704                  | 0011280                             | 0500                             | 15028             |                     |                                 |                      |                                 |                                 |                                   |     |                         |                  |                |      |     |                           |      |
|                            | D85         | 0444         |                    | 1071                | 35342            | 2711                  |                                     |                                  | 15007             |                     |                                 |                      |                                 |                                 |                                   |     |                         |                  |                |      |     |                           |      |
|                            | ST0         | 0500         |                    | 0973                | 3520             | 2717                  | 0010101                             | 0607                             | 14979             |                     |                                 |                      |                                 |                                 |                                   |     |                         |                  |                |      |     |                           |      |
| 175                        | D85         | T0522        |                    | 0933                | 35151            | 2720                  |                                     |                                  | 14967             |                     |                                 |                      |                                 |                                 |                                   |     |                         |                  |                |      |     |                           |      |
|                            | ST0         | 0600         |                    | 0752                | 3499             | 2736                  | 0008311                             | 0699                             | 14909             |                     |                                 |                      |                                 |                                 |                                   |     |                         |                  |                |      |     |                           |      |
|                            | D85         | 0680         |                    | 0620                | 34906            | 2747                  |                                     |                                  | 14870             |                     |                                 |                      |                                 |                                 |                                   |     |                         |                  |                |      |     |                           |      |
| 175                        | ST0         | 0700         |                    | 0606                | 3491             | 2749                  | 0006965                             | 0775                             | 14867             |                     |                                 |                      |                                 |                                 |                                   |     |                         |                  |                |      |     |                           |      |
|                            | ST0         | 0800         |                    | 0545                | 3495             | 2760                  | 0005981                             | 0840                             | 14860             |                     |                                 |                      |                                 |                                 |                                   |     |                         |                  |                |      |     |                           |      |
|                            | D85         | T0847        |                    | 0520                | 34962            | 2767                  |                                     |                                  | 14856             |                     |                                 |                      |                                 |                                 |                                   |     |                         |                  |                |      |     |                           |      |
| 175                        | ST0         | 0903         |                    | 0495                | 3496             | 2764                  | 0005379                             | 0897                             | 14858             |                     |                                 |                      |                                 |                                 |                                   |     |                         |                  |                |      |     |                           |      |
|                            | ST0         | 1000         |                    | 0456                | 3496             | 2771                  | 0005017                             | 0949                             | 14857             |                     |                                 |                      |                                 |                                 |                                   |     |                         |                  |                |      |     |                           |      |
|                            | ST0         | 1100         |                    | 0429                | 3495             | 2774                  | 0004812                             | 0998                             | 14862             |                     |                                 |                      |                                 |                                 |                                   |     |                         |                  |                |      |     |                           |      |
| 175                        | ST0         | 1200         |                    | 0413                | 3495             | 2775                  | 0004742                             | 1046                             | 14872             |                     |                                 |                      |                                 |                                 |                                   |     |                         |                  |                |      |     |                           |      |
|                            | D85         | T1290        |                    | 0408                | 34940            | 2775                  |                                     |                                  | 14885             |                     |                                 |                      |                                 |                                 |                                   |     |                         |                  |                |      |     |                           |      |

| REFERENCE<br>CTRY<br>CODE | ID.<br>NO.    | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MOON<br>PHASE | MARSION<br>SQUARE | STATION TIME<br>(GMT)           | YEAR       | ORIGINATOR'S                      |                   | DEPTH<br>BOTTOM   | MAR.<br>DEPTH<br>OF<br>SAMPL. | WAVE<br>OBSERVATIONS            |                      |                                 |                                 | WEA-<br>TER<br>CODE                | CLOUD<br>CODES | NOOD<br>STATION<br>NUMBER |               |  |                      |  |
|---------------------------|---------------|--------------|--------------------|---------------------|---------------|-------------------|---------------------------------|------------|-----------------------------------|-------------------|-------------------|-------------------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|------------------------------------|----------------|---------------------------|---------------|--|----------------------|--|
|                           |               |              |                    |                     |               |                   |                                 |            | CRUISE<br>NO.                     | STATION<br>NUMBER |                   |                               | OK                              | HGT                  | PER                             | SEA                             |                                    |                |                           |               |  |                      |  |
|                           |               |              |                    |                     |               |                   |                                 |            |                                   |                   |                   |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
| 311265                    | 0G            |              | 4400 N             | 04051 W             |               | 145 40            | 05 07                           | 26         | 1968                              | 018               | 002               |                               | 17                              | 20                   | 2                               | 2                               |                                    | 3              | 4                         | 0002          |  |                      |  |
|                           |               |              |                    |                     |               | WATER             |                                 | WIND       |                                   | AIR TEMP. °C      |                   |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
|                           |               |              |                    |                     |               | COLOR CODE        |                                 | TRANSL (m) |                                   | OIL               |                   | SPEED OF WATER (knot)         |                                 | SARO-DRY RULB        |                                 | WET RULB                        |                                    | VIL CODE       |                           | NO. OF DEPTHS |  | SPECIAL OBSERVATIONS |  |
|                           |               |              |                    |                     |               | 15                |                                 | 515        |                                   | 322               |                   | 172                           |                                 | 156                  |                                 | 7                               |                                    | 14             |                           |               |  |                      |  |
| MESSNGR<br>Run<br>HR 1/10 | CASE<br>C NO. | CARD<br>TYPE | DEPTH (m)          | T °C                | S ‰           | SIGMA-T           | SPECIFIC VOLUME<br>ANDALAL-170° |            | Σ Δ O<br>OTC, Δ x 10 <sup>3</sup> |                   | SOUND<br>VELOCITY | O <sub>2</sub> ml/l           | PO <sub>2</sub> -P<br>pg - ml/l | TOTAL-P<br>pg - ml/l | NO <sub>2</sub> -N<br>pg - ml/l | NO <sub>3</sub> -N<br>pg - ml/l | Si O <sub>4</sub> -Si<br>pg - ml/l | pH             |                           |               |  |                      |  |
| 125                       |               | STD          | 0000               | 1523                | 3585          | 2660              | 0014505                         |            | 0000                              |                   | 15092             |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
|                           |               | OBS          | 0000               | 1523                | 3585.3        | 2660              |                                 |            |                                   |                   | 15092             |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
|                           |               | STD          | 0010               | 1520                | 3595          | 2668              | 0013764                         |            | 0014                              |                   | 15094             |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
| 126                       |               | STD          | 0020               | 1506                | 3600          | 2675              | 0013134                         |            | 0028                              |                   | 15091             |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
|                           |               | OBS          | 0027               | 1489                | 36002         | 2679              |                                 |            |                                   |                   | 15087             |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
|                           |               | STD          | 0030               | 1470                | 3596          | 2680              | 0012702                         |            | 0041                              |                   | 15081             |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
| 125                       |               | STD          | 0050               | 1386                | 3578          | 2684              | 0012361                         |            | 0066                              |                   | 15055             |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
|                           |               | OBS          | 0053               | 1380                | 3576.9        | 2684              |                                 |            |                                   |                   | 15053             |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
|                           |               | STD          | 0075               | 1398                | 3585          | 2687              | 0012164                         |            | 0096                              |                   | 15064             |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
| 126                       |               | OBS          | 0081               | 1399                | 3585.6        | 2687              |                                 |            |                                   |                   | 15065             |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
|                           |               | STD          | 0100               | 1389                | 3584          | 2688              | 0012128                         |            | 0127                              |                   | 15065             |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
|                           |               | OBS          | 0109               | 1345                | 3583.7        | 2688              |                                 |            |                                   |                   | 15065             |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
| 126                       |               | STD          | 0125               | 1378                | 3582          | 2688              | 0012125                         |            | 0157                              |                   | 15065             |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
|                           |               | STD          | 0150               | 1366                | 3579          | 2689              | 0012175                         |            | 0187                              |                   | 15065             |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
|                           |               | OBS          | 0164               | 1359                | 3577.8        | 2689              |                                 |            |                                   |                   | 15065             |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
| 126                       |               | STD          | 0200               | 1343                | 3573          | 2689              | 0012296                         |            | 0248                              |                   | 15065             |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
|                           |               | OBS          | 0220               | 1331                | 3570.8        | 2690              |                                 |            |                                   |                   | 15064             |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
|                           |               | STD          | 0250               | 1305                | 3566          | 2691              | 0012195                         |            | 0310                              |                   | 15060             |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
| 126                       |               | STD          | 0300               | 1253                | 3558          | 2695              | 0011904                         |            | 0370                              |                   | 15049             |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
|                           |               | OBS          | 0335               | 1211                | 3552.5        | 2699              |                                 |            |                                   |                   | 15040             |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
|                           |               | STD          | 0400               | 1122                | 3540          | 2707              | 0011024                         |            | 0485                              |                   | 15018             |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
| 126                       |               | OBS          | 0453               | 1036                | 3529.7        | 2714              |                                 |            |                                   |                   | 14995             |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
|                           |               | STD          | 0500               | 0932                | 3518          | 2723              | 0009562                         |            | 0587                              |                   | 14763             |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
|                           |               | OBS          | 0562               | 0819                | 3506.5        | 2732              |                                 |            |                                   |                   | 14930             |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
| 126                       |               | STD          | 0600               | 0769                | 3504          | 2737              | 0008199                         |            | 0676                              |                   | 14917             |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
|                           |               | OBS          | 0673               | 0683                | 3500.6        | 2747              |                                 |            |                                   |                   | 14895             |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
|                           |               | STD          | 0700               | 0657                | 3501          | 2750              | 0006975                         |            | 0752                              |                   | 14889             |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
| 126                       |               | STD          | 0800               | 0574                | 3500          | 2761              | 0005986                         |            | 0817                              |                   | 14772             |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
|                           |               | OBS          | 0846               | 0514                | 3475.8        | 2768              |                                 |            |                                   |                   | 14864             |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
|                           |               | STD          | 0900               | 0513                | 3500          | 2768              | 0005326                         |            | 0874                              |                   | 14864             |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
| 126                       |               | STD          | 1000               | 0463                | 3499          | 2771              | 0005114                         |            | 0926                              |                   | 14868             |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
|                           |               | STD          | 1100               | 0457                | 3498          | 2773              | 0004943                         |            | 0976                              |                   | 14874             |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
|                           |               | OBS          | 1130               | 0450                | 3497.8        | 2774              |                                 |            |                                   |                   | 14876             |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
| 126                       |               | STD          | 1200               | 0435                | 3497          | 2775              | 0004841                         |            | 1025                              |                   | 14882             |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
|                           |               | STD          | 1300               | 0416                | 3497          | 2777              | 0004692                         |            | 1073                              |                   | 14891             |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
|                           |               | STD          | 1400               | 0401                | 3496          | 2777              | 0004663                         |            | 1119                              |                   | 14901             |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
| 126                       |               | STD          | 1500               | 0390                | 3495          | 2778              | 0004682                         |            | 1166                              |                   | 14913             |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |
|                           |               | OBS          | 1733               | 0379                | 3494.0        | 2778              |                                 |            |                                   |                   | 14949             |                               |                                 |                      |                                 |                                 |                                    |                |                           |               |  |                      |  |



TABLE IX.—Continued

| REFERENCE                  |             | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | #<br>OBS       | MARKS<br>SQUARE |  | STATION TIME<br>(GMT)                       |                   | YEAR                | ORIGINATOR'S   |   | DEPTH<br>TO<br>BOTTOM                                    | MAX.<br>DEPTH<br>OF<br>SAMPLE                            | WAVE<br>OBSERVATIONS                                       |                      |     | WEA-<br>THER<br>CODE | CLOUD<br>CODES |     | NODC<br>STATION<br>NUMBER |    |     |  |  |
|----------------------------|-------------|--------------|--------------------|---------------------|----------------|-----------------|--|---|-------------------|---------------------|--|---|--|--|--|----------------------|-----|----------------------|----------------|-----|---------------------------|----|-----|--|--|
| TYPE<br>CODE               | ID.<br>NO.  |              |                    |                     |                | 10"             | 1"                                     | MO  | DAY               |                     | HR   | 1/10  |  |  | CRUISE<br>NO.  | STATION<br>NUMBER    | DIR |                      | HGT            | PER |                           | TH | AMT |  |  |
| 311265                     | DG          |              | 4358 N             | 04104 W             | 149            | 31              | 05                                     | 08  | 135               | 1968                | 018  | 003   |  | 19   | 21   | 2                    | 4   |                      | 8              | 3   | 0003                      |    |     |  |  |
|                            |             |              |                    |                     |                |                 |  |   |                   |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
|                            |             | WATER        |                    | WIND                |                | AIR TEMP. °C    |  | BARO-<br>METER<br>(mb)                      |                   | REL. HUM.           |  | VIS. CODE                                     |  | NO. OBS. DEPTHS  |  | SPECIAL OBSERVATIONS |     |                      |                |     |                           |    |     |  |  |
|                            |             | COLOR CODE   | TRANS. UNIT        | DIR.                | SPEED OF FORCE | DRY BULB        | WET BULB                               | DRY BULB                                    | WET BULB          | DRY BULB            | WET BULB   | DRY BULB                                      | WET BULB   | DRY BULB   | WET BULB   |                      |     |                      |                |     |                           |    |     |  |  |
|                            |             |              |                    |                     |                | 19              | 520                                    | 271   | 178               | 161                 | 7  | 14  |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
| MESSAGE<br>TIME<br>HR 1/10 | CARD<br>NO. | CARD<br>TYPE | DEPTH (m)          | T °C                | S ‰            | SIGMA-T         | SPECIFIC VOLUME<br>ANOMALY- $\sigma_t$ | $\Sigma \Delta$<br>DYN. M.<br>$\times 10^3$ | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>$\mu\text{g} \cdot \text{ml}^{-1}$ | TOTAL-P<br>$\mu\text{g} \cdot \text{ml}^{-1}$ | NO <sub>3</sub> -N<br>$\mu\text{g} \cdot \text{ml}^{-1}$ | NO <sub>3</sub> -N<br>$\mu\text{g} \cdot \text{ml}^{-1}$ | SiO <sub>4</sub> -Si<br>$\mu\text{g} \cdot \text{ml}^{-1}$ | pH                   | S   | C                    |                |     |                           |    |     |  |  |
|                            |             | STD          | 0000               | 1561                | 3592           | 2656            | 0014835                                | 0000  | 15104             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
|                            |             | DBS          | 0000               | 1561                | 35919          | 2656            |  |   | 15104             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
| 135                        |             | STD          | 0010               | 1554                | 3601           | 2665            | 0014052                                | 0014  | 15105             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
|                            |             | STD          | 0020               | 1545                | 3607           | 2671            | 0013453                                | 0028  | 15104             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
|                            |             | DBS          | 0027               | 1537                | 36089          | 2675            |  |   | 15103             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
| 135                        |             | STD          | 0030               | 1532                | 3608           | 2675            | 0013133                                | 0041  | 15102             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
|                            |             | STD          | 0050               | 1500                | 3603           | 2678            | 0012881                                | 0068  | 15095             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
|                            |             | DBS          | 0060               | 1486                | 36010          | 2680            |  |   | 15092             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
| 135                        |             | STD          | 0075               | 1471                | 3598           | 2681            | 0012714                                | 0099  | 15089             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
|                            |             | DBS          | 0091               | 1447                | 35931          | 2682            |  |   | 15083             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
| 135                        |             | STD          | 0100               | 1422                | 3588           | 2684            | 0012506                                | 0131  | 15076             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
|                            |             | DBS          | 0121               | 1383                | 35798          | 2686            |  |   | 15066             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
|                            |             | STD          | 0125               | 1386                | 3581           | 2686            | 0012359                                | 0162  | 15068             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
|                            |             | STD          | 0150               | 1402                | 3588           | 2688            | 0012244                                | 0193  | 15078             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
| 135                        |             | DBS          | 0182               | 1404                | 35909          | 2689            |  |   | 15086             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
|                            |             | STD          | 0200               | 1405                | 3588           | 2687            | 0012451                                | 0255  | 15087             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
|                            |             | DBS          | T042               | 1386                | 35822          | 2687            |  |   | 15087             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
| 135                        |             | STD          | 0250               | 1382                | 3581           | 2687            | 0012637                                | 0317  | 15087             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
|                            |             | STD          | 0300               | 1341                | 3573           | 2689            | 0012535                                | 0380  | 15081             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
|                            |             | DBS          | 0366               | 1250                | 35584          | 2696            |  |   | 15059             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
| 135                        |             | STD          | 0400               | 1160                | 3546           | 2704            | 0011282                                | 0499  | 15032             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
|                            |             | DBS          | 0488               | 0969                | 35215          | 2719            |  |   | 14975             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
|                            |             | STD          | 0500               | 0951                | 3520           | 2721            | 0009731                                | 0604  | 14971             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
|                            |             | STD          | 0600               | 0815                | 3510           | 2735            | 0008463                                | 0695  | 14935             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
| 135                        |             | DBS          | 0613               | 0798                | 35085          | 2736            |  |   | 14930             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
|                            |             | STD          | 0700               | 0692                | 3505           | 2749            | 0007147                                | 0773  | 14903             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
|                            |             | DBS          | T0742              | 0648                | 35030          | 2753            |  |   | 14893             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
| 135                        |             | STD          | 0800               | 0600                | 3501           | 2758            | 0006283                                | 0841  | 14883             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
|                            |             | STD          | 0900               | 0531                | 3499           | 2765            | 0005623                                | 0900  | 14871             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
| 135                        |             | DBS          | 0986               | 0487                | 34982          | 2770            |  |   | 14868             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
|                            |             | STD          | 1000               | 0484                | 3498           | 2770            | 0005194                                | 0954  | 14869             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
|                            |             | STD          | 1100               | 0462                | 3498           | 2772            | 0005015                                | 1005  | 14876             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
|                            |             | STD          | 1200               | 0443                | 3498           | 2775            | 0004871                                | 1055  | 14885             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
| 135                        |             | DBS          | T1237              | 0436                | 34976          | 2775            |  |   | 14888             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
|                            |             | STD          | 1300               | 0425                | 3497           | 2776            | 0004809                                | 1103  | 14894             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
|                            |             | STD          | 1400               | 0411                | 3497           | 2777            | 0004720                                | 1151  | 14905             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
|                            |             | STD          | 1500               | 0398                | 3497           | 2779            | 0004641                                | 1198  | 14917             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
|                            |             | STD          | 1750               | 0377                | 3495           | 2779            | 0004723                                | 1315  | 14950             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |
| 135                        |             | DBS          | T1881              | 0371                | 34942          | 2779            |  |   | 14969             |                     |  |   |  |  |  |                      |     |                      |                |     |                           |    |     |  |  |

| REFERENCE                  |             | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | #<br>OBS       | MARKS<br>SQUARE |  | STATION TIME<br>(GMT)                       |                   | YEAR                | ORIGINATOR'S   |   | DEPTH<br>TO<br>BOTTOM                                    | MAX.<br>DEPTH<br>OF<br>SAMPLE                            | WAVE<br>OBSERVATIONS                                       |                      |     | WEA-<br>THER<br>CODE | CLOUD<br>CODES |      | NODC<br>STATION<br>NUMBER |    |     |  |  |
|----------------------------|-------------|--------------|--------------------|---------------------|----------------|-----------------|--|---|-------------------|---------------------|--|---|--|--|--|----------------------|-----|----------------------|----------------|------|---------------------------|----|-----|--|--|
| CRUISE<br>NO.              | ID.<br>NO.  |              |                    |                     |                | 10"             | 1"                                     | MO  | DAY               |                     | HR   | 1/10  |  |  | CRUISE<br>NO.  | STATION<br>NUMBER    | DIA |                      | HGT            | PER  |                           | TH | AMT |  |  |
| 311265                     | DG          | 4405 N       | 04106 W            | 149                 | 41             | 05              | 09                                     | 132   | 1968              | 018                 | 004  |   | 14   | 14   | 5  | 4                    |     | 3                    | 4              | 0004 |                           |    |     |  |  |
|                            |             |              |                    |                     |                |                 |  |   |                   |                     |  |   |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |
|                            |             | WATER        |                    | WIND                |                | AIR TEMP. °C    |  | BARO-<br>METER<br>(mb)                      |                   | REL. HUM.           |  | VIS. CODE                                     |  | NO. OBS. DEPTHS  |  | SPECIAL OBSERVATIONS |     |                      |                |      |                           |    |     |  |  |
|                            |             | COLOR CODE   | TRANS. UNIT        | DIR.                | SPEED OF FORCE | DRY BULB        | WET BULB                               | DRY BULB                                    | WET BULB          | DRY BULB            | WET BULB   | DRY BULB                                      | WET BULB   | DRY BULB   | WET BULB   |                      |     |                      |                |      |                           |    |     |  |  |
|                            |             |              |                    |                     |                | 17              | 525                                    | 186   | 172               | 167                 | 8  | 14  |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |
| MESSAGE<br>TIME<br>HR 1/10 | CARD<br>NO. | CARD<br>TYPE | DEPTH (m)          | T °C                | S ‰            | SIGMA-T         | SPECIFIC VOLUME<br>ANOMALY- $\sigma_t$ | $\Sigma \Delta$<br>DYN. M.<br>$\times 10^3$ | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>$\mu\text{g} \cdot \text{ml}^{-1}$ | TOTAL-P<br>$\mu\text{g} \cdot \text{ml}^{-1}$ | NO <sub>3</sub> -N<br>$\mu\text{g} \cdot \text{ml}^{-1}$ | NO <sub>3</sub> -N<br>$\mu\text{g} \cdot \text{ml}^{-1}$ | SiO <sub>4</sub> -Si<br>$\mu\text{g} \cdot \text{ml}^{-1}$ | pH                   | S   | C                    |                |      |                           |    |     |  |  |
|                            |             | STD          | 0000               | 1571                | 3607           | 2665            | 0013979                                | 0000  | 15109             |                     |  |   |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |
|                            |             | DBS          | 0000               | 1571                | 36066          | 2665            |  |   | 15109             |                     |  |   |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |
| 132                        |             | STD          | 0010               | 1566                | 3606           | 2666            | 0013924                                | 0014  | 15109             |                     |  |   |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |
|                            |             | STD          | 0020               | 1561                | 3606           | 2667            | 0013877                                | 0028  | 15109             |                     |  |   |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |
|                            |             | DBS          | 0024               | 1559                | 36058          | 2667            |  |   | 15109             |                     |  |   |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |
|                            |             | STD          | 0030               | 1556                | 3609           | 2670            | 0013575                                | 0042  | 15110             |                     |  |   |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |
| 132                        |             | DBS          | 0047               | 1546                | 36134          | 2676            |  |   | 15110             |                     |  |   |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |
|                            |             | STD          | 0050               | 1546                | 3613           | 2676            | 0013116                                | 0068  | 15110             |                     |  |   |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |
| 132                        |             | DBS          | 0071               | 1531                | 36114          | 2678            |  |   | 15109             |                     |  |   |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |
|                            |             | STD          | 0075               | 1523                | 3610           | 2679            | 0012930                                | 0101  | 15107             |                     |  |   |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |
| 132                        |             | DBS          | 0094               | 1485                | 36023          | 2681            |  |   | 15097             |                     |  |   |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |
|                            |             | STD          | 0100               | 1465                | 3598           | 2682            | 0012664                                | 0133  | 15091             |                     |  |   |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |
|                            |             | STD          | 0125               | 1405                | 3585           | 2685            | 0012452                                | 0164  | 15074             |                     |  |   |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |
| 132                        |             | DBS          | 0141               | 1384                | 35803          | 2686            |  |   | 15070             |                     |  |   |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |
|                            |             | STD          | 0150               | 1390                | 3582           | 2686            | 0012439                                | 0195  | 15073             |                     |  |   |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |
| 132                        |             | DBS          | T0187              | 1402                | 35869          | 2687            |  |   | 15084             |                     |  |   |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |
|                            |             | STD          | 0200               | 1396                | 3585           | 2687            | 0012486                                | 0258  | 15084             |                     |  |   |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |
|                            |             | STD          | 0250               | 1362                | 3579           | 2689            | 0012378                                | 0320  | 15080             |                     |  |   |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |
| 132                        |             | DBS          | 0280               | 1334                | 35735          | 2691            |  |   | 15075             |                     |  |   |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |
|                            |             | STD          | 0300               | 1312                | 3569           | 2692            | 0012250                                | 0381  | 15071             |                     |  |   |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |
| 132                        |             | DBS          | T0373              | 1208                | 35526          | 2700            |  |   | 15045             |                     |  |   |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |
|                            |             | STD          | 0400               | 1152                | 3545           | 2705            | 0011207                                | 0499  | 15029             |                     |  |   |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |
| 132                        |             | DBS          | 0465               | 1023                | 35281          | 2715            |  |   | 14992             |                     |  |   |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |
|                            |             | STD          | 0500               | 0954                | 3520           | 2721            | 0009781                                | 0604  | 14972             |                     |  |   |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |
| 132                        |             | DBS          | T0556              | 0856                | 35101          | 2729            |  |   | 14943             |                     |  |   |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |
|                            |             | STD          | 0600               | 0801                | 3510           | 2737            | 0008246                                | 0694  | 14930             |                     |  |   |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |
|                            |             | STD          | 0700               | 0690                | 3508           | 2752            | 0006697                                | 0769  | 14903             |                     |  |   |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |
| 132                        |             | DBS          | 0739               | 0652                | 35072          | 2756            |  |   | 14894             |                     |  |   |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |
|                            |             | STD          | 0800               | 0598                | 3504           | 2761            | 0006034                                | 0834  | 14882             |                     |  |   |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |
|                            |             | STD          | 0900               | 0523                | 3499           | 2766            | 0005517                                | 0892  | 14868             |                     |  |   |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |
| 132                        |             | DBS          | T0926              | 0506                | 34984          | 2768            |  |   | 14865             |                     |  |   |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |
|                            |             | STD          | 1000               | 0492                | 3498           | 2769            | 0005282                                | 0946  | 14872             |                     |  |   |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |
|                            |             | STD          | 1100               | 0473                | 3498           | 2771            | 0005157                                | 0998  | 14881             |                     |  |   |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |
|                            |             | STD          | 1200               | 0454                | 3498           | 2773            | 0005032                                | 1049  | 14889             |                     |  |   |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |
|                            |             | STD          | 1300               | 0435                | 3498           | 2775            | 0004897                                | 1099  | 14893             |                     |  |   |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |
|                            |             | STD          | 1400               | 0415                | 3497           | 2777            | 0004756                                | 1147  | 14907             |                     |  |   |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |
| 132                        |             | DBS          | T1423              | 0411                | 34972          | 2777            |  |   | 14909             |                     |  |   |  |  |  |                      |     |                      |                |      |                           |    |     |  |  |



TABLE IX.—Continued

| REFERENCE<br>CRUISE<br>CODE  | SHIP<br>CODE | LATITUDE<br>° ' 10" | LONGITUDE<br>° ' 10" | MARS<br>SQUARE | STATION TIME<br>(GMT) |           |   | YEAR                      | ORIGINATOR'S      |                    | DEPTH<br>TO<br>BOTTOM                        | MAX.<br>DEPTH<br>OF<br>SAMPLING   | WAVE<br>OBSERVATIONS                         |  |  | WEA-<br>THER<br>CODE | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |     |
|------------------------------|--------------|---------------------|----------------------|----------------|-----------------------|-----------|---|---------------------------|-------------------|--------------------|--|-----------------------------------|--|--|--|----------------------|----------------|---------------------------|-----|
|                              |              |                     |                      |                | 10"                   | 1"        | MO DAY HR 1/10                            |                           | CRUISE<br>NO.     | STATION<br>NUMBER  |  |                                   | DR   | HGT  | PER  |                      |                |                           | SEA |
|                              |              |                     |                      |                | 10"                   | 1"        | MO DAY HR 1/10                            |                           | CRUISE<br>NO.     | STATION<br>NUMBER  |  |                                   | DR   | HGT  | PER  |                      |                |                           | SEA |
| 311265                       | OG           | 4357 N              | 04050 W              | 149            | 30                    | 05 10 133 | 1968                                      | 018                       | 005               |                    | 14   | 27                                | 5  | 2  |  | 0                    | 3              | 0005                      |     |
|                              |              |                     |                      |                |                       |           |   |                           |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              |              |                     |                      | WATER          |                       | WIND      |   | BARO-<br>METER            |                   | AIR TEMP. °C       |  | VIL<br>CODE                       | NO.<br>DRS.<br>DEPTHS                        | SPECIAL<br>OBSERVATIONS                      |  |                      |                |                           |     |
|                              |              |                     |                      | COLOR<br>CODE  | TRANS.<br>M           | DIR.      | SPED.<br>OR<br>FORCE                      | DRY<br>BULB               | WET<br>BULB       |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              |              |                     |                      | 17             | 517                   |           | 129                                       | 183                       | 161               | 8                  | 14   |                                   |  |  |  |                      |                |                           |     |
| MESSENGER<br>TIME<br>HR 1/10 | CAST<br>NO.  | CARD<br>TYPE        | DEPTH (m)            | T °C           | S ‰                   | SIGMA-T   | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> | Σ Δ D<br>DTH. M.<br>± 10' | SOUND<br>VELOCITY | D <sub>2</sub> m/l | PO <sub>4</sub> -P<br>μg - σ <sub>t</sub> /l | TOTAL-P<br>μg - σ <sub>t</sub> /l | NO <sub>3</sub> -N<br>μg - σ <sub>t</sub> /l | NO <sub>3</sub> -N<br>μg - σ <sub>t</sub> /l | SiO <sub>4</sub> -Si<br>μg - σ <sub>t</sub> /l | PH                   | S<br>CODE      |                           |     |
|                              |              | STO                 | 0000                 | 1571           | 3600                  | 2660      | 0014438                                   | 0000                      | 15108             |                    |  |                                   |  |  |  |                      |                |                           |     |
| 133                          | 085          | 0003                | 1571                 | 36003          | 2660                  |           |   |                           | 15108             |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 0010                | 1565                 | 3600           | 2661                  | 0014369   | 0014                                      | 15108                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 0020                | 1557                 | 3600           | 2663                  | 0014250   | 0029                                      | 15107                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
| 133                          | 085          | 0025                | 1553                 | 35994          | 2664                  |           |   |                           | 15107             |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 0030                | 1550                 | 3602           | 2666                  | 0013956   | 0043                                      | 15107                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 0050                | 1528                 | 3607           | 2675                  | 0013220   | 0070                                      | 15104                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
| 133                          | 085          | 0050                | 1528                 | 36065          | 2675                  |           |   |                           | 15104             |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 0075                | 1474                 | 3596           | 2678                  | 0012952   | 0103                                      | 15090                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
| 133                          | 085          | 0075                | 1474                 | 35956          | 2678                  |           |   |                           | 15090             |                    |  |                                   |  |  |  |                      |                |                           |     |
| 133                          | 085          | 0096                | 1434                 | 35855          | 2679                  |           |   |                           | 15079             |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 0100                | 1423                 | 3583           | 2680                  | 0012892   | 0135                                      | 15076                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 0125                | 1371                 | 3571           | 2681                  | 0012788   | 0167                                      | 15062                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
| 133                          | 085          | 0144                | 1346                 | 35660          | 2683                  |           |   |                           | 15056             |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 0150                | 1345                 | 3567           | 2684                  | 0012636   | 0199                                      | 15057                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
| 133                          | 085          | T0189               | 1339                 | 35673          | 2685                  |           |   |                           | 15061             |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 0200                | 1319                 | 3563           | 2686                  | 0012552   | 0262                                      | 15056                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 0250                | 1246                 | 3549           | 2670                  | 0012296   | 0324                                      | 15038                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
| 133                          | 085          | 0280                | 1215                 | 35442          | 2692                  |           |   |                           | 15031             |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 0300                | 1207                 | 3547           | 2696                  | 0011840   | 0384                                      | 15032                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
| 133                          | 085          | 0366                | 1182                 | 35479          | 2701                  |           |   |                           | 15035             |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 0400                | 1119                 | 3540           | 2707                  | 0010969   | 0498                                      | 15017                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
| 133                          | 085          | 0450                | 1027                 | 35286          | 2715                  |           |   |                           | 14991             |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 0500                | 0936                 | 3519           | 2723                  | 0009554   | 0601                                      | 14965                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
| 133                          | 085          | T0536               | 0873                 | 35131          | 2728                  |           |   |                           | 14947             |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 0600                | 0752                 | 3503           | 2739                  | 0008017   | 0689                                      | 14910                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 0700                | 0611                 | 3494           | 2751                  | 0006805   | 0763                                      | 14870                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
| 133                          | 085          | 0700                | 0611                 | 34941          | 2751                  |           |   |                           | 14870             |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 0800                | 0548                 | 3456           | 2761                  | 0005947   | 0827                                      | 14861                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
| 133                          | 085          | T0879               | 0507                 | 34963          | 2766                  |           |   |                           | 14858             |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 0900                | 0503                 | 3496           | 2766                  | 0005455   | 0884                                      | 14859                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 1000                | 0482                 | 3496           | 2768                  | 0005323   | 0938                                      | 14867                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 1100                | 0460                 | 3495           | 2770                  | 0005193   | 0990                                      | 14875                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 1200                | 0439                 | 3495           | 2772                  | 0005058   | 1041                                      | 14883                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 1300                | 0418                 | 3494           | 2774                  | 0004911   | 1091                                      | 14891                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
| 133                          | 085          | T1358               | 0406                 | 34941          | 2775                  |           |   |                           | 14896             |                    |  |                                   |  |  |  |                      |                |                           |     |

| REFERENCE<br>CRUISE<br>CODE  | SHIP<br>CODE | LATITUDE<br>° ' 10" | LONGITUDE<br>° ' 10" | MARS<br>SQUARE | STATION TIME<br>(GMT) |           |   | YEAR                      | ORIGINATOR'S      |                    | DEPTH<br>TO<br>BOTTOM                        | MAX.<br>DEPTH<br>OF<br>SAMPLING   | WAVE<br>OBSERVATIONS                         |  |  | WEA-<br>THER<br>CODE | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |     |
|------------------------------|--------------|---------------------|----------------------|----------------|-----------------------|-----------|---|---------------------------|-------------------|--------------------|--|-----------------------------------|--|--|--|----------------------|----------------|---------------------------|-----|
|                              |              |                     |                      |                | 10"                   | 1"        | MO DAY HR 1/10                            |                           | CRUISE<br>NO.     | STATION<br>NUMBER  |  |                                   | DR   | HGT  | PER  |                      |                |                           | SEA |
|                              |              |                     |                      |                | 10"                   | 1"        | MO DAY HR 1/10                            |                           | CRUISE<br>NO.     | STATION<br>NUMBER  |  |                                   | DR   | HGT  | PER  |                      |                |                           | SEA |
| 311265                       | OG           | 4358 N              | 04056 W              | 149            | 30                    | 05 11 183 | 1968                                      | 018                       | 006               |                    | 19   | 17                                | 9  | 4  |  | 8                    | 4              | 0006                      |     |
|                              |              |                     |                      |                |                       |           |   |                           |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              |              |                     |                      | WATER          |                       | WIND      |   | BARO-<br>METER            |                   | AIR TEMP. °C       |  | VIL<br>CODE                       | NO.<br>DRS.<br>DEPTHS                        | SPECIAL<br>OBSERVATIONS                      |  |                      |                |                           |     |
|                              |              |                     |                      | COLOR<br>CODE  | TRANS.<br>M           | DIR.      | SPED.<br>OR<br>FORCE                      | DRY<br>BULB               | WET<br>BULB       |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              |              |                     |                      | 23             | 535                   |           | 079                                       | 139                       | 122               | 8                  | 14   |                                   |  |  |  |                      |                |                           |     |
| MESSENGER<br>TIME<br>HR 1/10 | CAST<br>NO.  | CARD<br>TYPE        | DEPTH (m)            | T °C           | S ‰                   | SIGMA-T   | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> | Σ Δ D<br>DTH. M.<br>± 10' | SOUND<br>VELOCITY | D <sub>2</sub> m/l | PO <sub>4</sub> -P<br>μg - σ <sub>t</sub> /l | TOTAL-P<br>μg - σ <sub>t</sub> /l | NO <sub>3</sub> -N<br>μg - σ <sub>t</sub> /l | NO <sub>3</sub> -N<br>μg - σ <sub>t</sub> /l | SiO <sub>4</sub> -Si<br>μg - σ <sub>t</sub> /l | PH                   | S<br>CODE      |                           |     |
|                              |              | STO                 | 0000                 | 1562           | 3603                  | 2664      | 0014054                                   | 0000                      | 15106             |                    |  |                                   |  |  |  |                      |                |                           |     |
| 183                          | 085          | 0000                | 1562                 | 36029          | 2664                  |           |   |                           | 15106             |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 0010                | 1560                 | 3603           | 2665                  | 0014010   | 0014                                      | 15107                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 0020                | 1557                 | 3604           | 2666                  | 0013966   | 0028                                      | 15108                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 0030                | 1555                 | 3604           | 2667                  | 0013922   | 0042                                      | 15109                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
| 183                          | 085          | 0032                | 1554                 | 36039          | 2667                  |           |   |                           | 15109             |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 0050                | 1503                 | 3599           | 2675                  | 0013236   | 0069                                      | 15095                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
| 183                          | 085          | 0063                | 1474                 | 35952          | 2678                  |           |   |                           | 15088             |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 0075                | 1453                 | 3591           | 2679                  | 0012851   | 0102                                      | 15082                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
| 183                          | 085          | 0095                | 1434                 | 35872          | 2681                  |           |   |                           | 15079             |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 0100                | 1436                 | 3589           | 2682                  | 0012714   | 0134                                      | 15081                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 0125                | 1444                 | 3592           | 2682                  | 0012747   | 0166                                      | 15088                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
| 183                          | 085          | 0127                | 1445                 | 35925          | 2682                  |           |   |                           | 15089             |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 0150                | 1427                 | 3590           | 2684                  | 0012610   | 0197                                      | 15086                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
| 183                          | 085          | 0190                | 1380                 | 35803          | 2687                  |           |   |                           | 15076             |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 0200                | 1360                 | 3575           | 2687                  | 0012489   | 0260                                      | 15071                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 0250                | 1272                 | 3553           | 2688                  | 0012503   | 0322                                      | 15047                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
| 183                          | 085          | 0252                | 1269                 | 35522          | 2688                  |           |   |                           | 15046             |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 0300                | 1217                 | 3546           | 2693                  | 0012096   | 0384                                      | 15036                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
| 183                          | 085          | 0379                | 1125                 | 35357          | 2703                  |           |   |                           | 15015             |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 0400                | 1101                 | 3534           | 2706                  | 0011084   | 0500                                      | 15010                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 0500                | 0966                 | 3522           | 2720                  | 0009836   | 0604                                      | 14976                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
| 183                          | 085          | T0508               | 0954                 | 35207          | 2721                  |           |   |                           | 14973             |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 0600                | 0765                 | 3506           | 2736                  | 0008295   | 0695                                      | 14923                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
| 183                          | 085          | 0631                | 0735                 | 35028          | 2741                  |           |   |                           | 14909             |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 0700                | 0642                 | 3499           | 2751                  | 0006874   | 0771                                      | 14883                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
| 183                          | 085          | T0754               | 0582                 | 34966          | 2757                  |           |   |                           | 14867             |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 0800                | 0555                 | 3496           | 2760                  | 0006018   | 0835                                      | 14864                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 0900                | 0504                 | 3496           | 2766                  | 0005513   | 0893                                      | 14860                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 1000                | 0465                 | 3495           | 2770                  | 0005161   | 0946                                      | 14860                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
| 183                          | 085          | 1007                | 0463                 | 34950          | 2770                  |           |   |                           | 14861             |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 1100                | 0447                 | 3495           | 2772                  | 0005035   | 0997                                      | 14870                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 1200                | 0431                 | 3495           | 2774                  | 0004921   | 1047                                      | 14880                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
| 183                          | 085          | T1264               | 0422                 | 34953          | 2775                  |           |   |                           | 14887             |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 1300                | 0417                 | 3495           | 2775                  | 0004852   | 1096                                      | 14891                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 1400                | 0405                 | 3495           | 2776                  | 0004783   | 1144                                      | 14902                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 1500                | 0395                 | 3495           | 2777                  | 0004747   | 1192                                      | 14915                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
|                              | STO          | 1750                | 0376                 | 3495           | 2779                  | 0004709   | 1310                                      | 14949                     |                   |                    |  |                                   |  |  |  |                      |                |                           |     |
| 183                          | 085          | T1914               | 0370                 | 34939          | 2779                  |           |   |                           | 14974             |                    |  |                                   |  |  |  |                      |                |                           |     |



TABLE IX.—Continued

| REFERENCE                  |             | SHIP CODE    | LATITUDE<br>°<br>' / 10" | LONGITUDE<br>°<br>' / 10" | WADSON SQUARE | STATION TIME<br>(GMT) |                      | YEAR                             | ORIGINATOR'S  |  | DEPTH TO<br>BOTTOM | MAL. DEPTH OF<br>STATION | WAVE OBSERVATIONS               |                         |                                 |                                 | WEA-<br>THER CODE                 | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |      |
|----------------------------|-------------|--------------|--------------------------|---------------------------|---------------|-----------------------|----------------------|----------------------------------|---------------|--|--------------------|--------------------------|---------------------------------|-------------------------|---------------------------------|---------------------------------|-----------------------------------|----------------|---------------------------|------|
| CRUISE<br>NO.              | ID.<br>NO.  |              |                          |                           | 10'           | 1"                    | MO. DAY HE. 1/10     |                                  | CRUISE<br>NO. | STATION<br>NUMBER  |                    |                          | DIR.                            | HGT.                    | PER.                            | SEA                             |                                   | 1/10           | AMT                       |      |
| 311265                     | OG          |              | 4356 N                   | 04112 W                   | 145           | 31                    | 05 12 135            | 1968                             | 018           | 007  |                    | 15                       | 20                              | 3                       | 2                               |                                 | K1                                | 8              | 6                         | 0007 |
|                            |             |              |                          | WATER                     |               | WIND                  |                      | BARO-<br>METER                   |               | AIR TEMP. °C   |                    | NO. OF<br>DEPTHS         |                                 | SPECIAL<br>OBSERVATIONS |                                 |                                 |                                   |                |                           |      |
|                            |             |              |                          | COLOR<br>CODE             | TRANS.<br>%   | DIR.                  | SPEED<br>OR<br>FORCE | DBT<br>BULB                      | WET<br>BULB   | VIS<br>CODE  |                    |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |
|                            |             |              |                          | 24                        | 505           | 098                   | 156                  | 144                              | 8             | 14   |                    |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |
| MESSAGE<br>TIME<br>HE 1/10 | CAST<br>NO. | CARD<br>TYPE | DEPTH (m)                | T °C                      | S ‰           | SIGMA-T               |                      | SPECIFIC VOLUME<br>ANDOMALT-21ST |               | $\frac{\Delta \sigma}{\sigma}$ OUN. H.<br>g 10 <sup>-3</sup> | SOUND<br>VELOCITY  | O <sub>2</sub> ml/l      | PO <sub>4</sub> -P<br>µg - ml/l | TOTAL P<br>µg - ml/l    | NO <sub>3</sub> -N<br>µg - ml/l | NO <sub>2</sub> -N<br>µg - ml/l | SiO <sub>4</sub> -Si<br>µg - ml/l | pH             |                           |      |
| 135                        | STD         |              | 0000                     |                           |               | 3601                  |                      |                                  |               |  |                    |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |
|                            | D85         |              | 0000                     |                           |               | 36006                 |                      |                                  |               |  |                    |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |
|                            | STD         |              | 0010                     |                           |               | 3602                  |                      |                                  |               |  |                    |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |
|                            | STD         |              | 0020                     |                           |               | 3603                  |                      |                                  |               |  |                    |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |
| 135                        | D85         |              | 0025                     | 1541                      | 36030         | 2669                  |                      |                                  |               |  | 15104              |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |
|                            | STD         |              | 0030                     | 1537                      | 3603          | 2670                  |                      | 0013612                          |               |  | 15103              |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |
|                            | STD         |              | 0050                     | 1515                      | 3602          | 2674                  |                      | 0013249                          |               |  | 15099              |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |
| 135                        | D85         |              | 0051                     | 1514                      | 36023         | 2675                  |                      |                                  |               |  | 15099              |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |
|                            | STD         |              | 0075                     | 1479                      | 3602          | 2682                  |                      | 0012574                          |               |  | 15092              |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |
| 135                        | D85         |              | 0076                     | 1478                      | 36022         | 2683                  |                      |                                  |               |  | 15092              |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |
|                            | STD         |              | 0100                     | 1463                      | 3600          | 2684                  |                      | 0012477                          |               |  | 15091              |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |
| 135                        | D85         |              | 0102                     | 1461                      | 35994         | 2684                  |                      |                                  |               |  | 15090              |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |
|                            | STD         |              | 0125                     | 1432                      | 3554          | 2686                  |                      | 0012333                          |               |  | 15084              |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |
|                            | STD         |              | 0150                     | 1408                      | 3589          | 2687                  |                      | 0012330                          |               |  | 15080              |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |
| 135                        | D85         |              | 0152                     | 1406                      | 35880         | 2687                  |                      |                                  |               |  | 15080              |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |
|                            | STD         |              | 0203                     | 1380                      | 3584          | 2690                  |                      | 0012235                          |               |  | 15078              |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |
| 135                        | D85         |              | T0205                    | 1377                      | 35839         | 2690                  |                      |                                  |               |  | 15078              |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |
|                            | STD         |              | 0250                     | 1360                      | 3581          | 2691                  |                      | 0012192                          |               |  | 15080              |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |
|                            | STD         |              | 0300                     | 1321                      | 3574          | 2694                  |                      | 0012063                          |               |  | 15074              |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |
| 135                        | D85         |              | 0305                     | 1316                      | 35734         | 2695                  |                      |                                  |               |  | 15073              |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |
|                            | STD         |              | 0400                     | 1175                      | 3549          | 2704                  |                      | 0011341                          |               |  | 15038              |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |
| 135                        | D85         |              | T0409                    | 1160                      | 35471         | 2705                  |                      |                                  |               |  | 15034              |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |
|                            | STD         |              | 0500                     | 0984                      | 3524          | 2719                  |                      | 0009994                          |               |  | 14983              |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |
| 135                        | D85         |              | 0508                     | 0968                      | 35226         | 2720                  |                      |                                  |               |  | 14978              |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |
|                            | STD         |              | 0600                     | 0780                      | 35023         | 2735                  |                      | 0008439                          |               |  | 14921              |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |
| 135                        | D85         |              | T0611                    | 0762                      | 35018         | 2736                  |                      |                                  |               |  | 14915              |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |
|                            | STD         |              | 0700                     | 0688                      | 3502          | 2747                  |                      | 0007295                          |               |  | 14901              |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |
|                            | STD         |              | 0800                     | 0615                      | 3503          | 2757                  |                      | 0006373                          |               |  | 14889              |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |
| 135                        | D85         |              | 0808                     | 0610                      | 35026         | 2758                  |                      |                                  |               |  | 14888              |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |
|                            | STD         |              | 0900                     | 0560                      | 3499          | 2762                  |                      | 0006019                          |               |  | 14883              |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |
|                            | STD         |              | 1000                     | 0507                      | 3496          | 2766                  |                      | 0005637                          |               |  | 14878              |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |
|                            | D85         |              | 1001                     | 0506                      | 34958         | 2766                  |                      |                                  |               |  | 14878              |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |
| 135                        | STD         |              | 1100                     | 0467                      | 3496          | 2770                  |                      | 0005257                          |               |  | 14878              |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |
|                            | STD         |              | 1200                     | 0437                      | 3496          | 2773                  |                      | 0004977                          |               |  | 14882              |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |
|                            | STD         |              | 1300                     | 0418                      | 3495          | 2775                  |                      | 0004843                          |               |  | 14891              |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |
|                            | STD         |              | 1400                     | 0408                      | 3495          | 2776                  |                      | 0004820                          |               |  | 14704              |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |
|                            | D85         |              | T1475                    | 0407                      | 34950         | 2776                  |                      |                                  |               |  | 14916              |                          |                                 |                         |                                 |                                 |                                   |                |                           |      |

[illegible]



TABLE IX.—Continued

| REFERENCE                  | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MARS<br>SQUARE       | STATION TIME |         |                | YEAR                                      | ORIGINATOR'S  |                                       | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPL'S | WAVE<br>OBSERVATIONS            |                         |                                 | WEA-<br>THER<br>CODE            | CLOUD<br>CODES                    |     | NOCC<br>STATION<br>NUMBER |      |
|----------------------------|--------------|--------------------|---------------------|----------------------|--------------|---------|----------------|---|---------------|---------------------------------------|-----------------------|--------------------------------|---------------------------------|-------------------------|---------------------------------|---------------------------------|-----------------------------------|-----|---------------------------|------|
|                            |              |                    |                     |                      | 10°          | 1°      | MO DAY HR 1/10 |   | CRUISE<br>NO. | STATION<br>NUMBER                     |                       |                                | DIR                             | HGT                     | PER                             |                                 | TYPE                              | AMT |                           |      |
| 311265                     | DG           | 4400 N             | 04058 W             | 149 40               | 05           | 14      | 130            | 1966                                      | 018           | 009                                   |                       | 13                             | 13                              | 2                       | 2                               |                                 | X5                                | 6   | 6                         | 0009 |
|                            |              |                    |                     | WATER                |              | WIND    |                | BARO-<br>METER                            |               | AIR TEMP. °C                          |                       | VIS<br>CODE                    | NO.<br>OBS.<br>DEPTH            | SPECIAL<br>OBSERVATIONS |                                 |                                 |                                   |     |                           |      |
| COLOR<br>CODE              |              | TRANS-<br>MIT      | DIR.                | SPEED<br>OF<br>FORCE | DRY<br>RULE  |         | WET<br>RULE    |   |               |                                       |                       |                                |                                 |                         |                                 |                                 |                                   |     |                           |      |
|                            |              |                    |                     |                      | 18           | 515     | 088            | 133                                       | 122           | 7                                     | 14                    |                                |                                 |                         |                                 |                                 |                                   |     |                           |      |
| MESSING<br>TIME<br>HR 1/10 | CASE<br>NO.  | CARD<br>TYPE       | DEPTH (m)           | T °C                 | S ‰          | SIGMA-T |                | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> |               | Σ Δ σ<br>DYN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY     | O <sub>2</sub> ml/l            | PO <sub>4</sub> -P<br>μg - dl/l | TOTAL-P<br>μg - dl/l    | NO <sub>3</sub> -N<br>μg - dl/l | NO <sub>3</sub> -N<br>μg - dl/l | SiO <sub>4</sub> -Si<br>μg - dl/l | pH  | °C                        |      |
|                            |              | STD                | 0000                | 1513                 | 3584         | 2661    |                | 0014381                                   |               | 0000                                  | 15088                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |      |
| 130                        |              | OBS                | 0000                | 1513                 | 3584         | 2661    |                |   |               |                                       | 15088                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |      |
|                            |              | STD                | 0010                | 1505                 | 3589         | 2666    |                | 0013916                                   |               | 0014                                  | 15088                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |      |
|                            |              | STD                | 0020                | 1497                 | 3593         | 2671    |                | 0013460                                   |               | 0028                                  | 15088                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |      |
| 130                        |              | OBS                | 0024                | 1494                 | 35948        | 2673    |                |   |               |                                       | 15088                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |      |
|                            |              | STD                | 0030                | 1457                 | 3550         | 2678    |                | 0012871                                   |               | 0041                                  | 15076                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |      |
| 130                        |              | OBS                | 0047                | 1381                 | 35808        | 2687    |                |   |               |                                       | 15053                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |      |
|                            |              | STD                | 0050                | 1376                 | 3580         | 2687    |                | 0012015                                   |               | 0066                                  | 15052                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |      |
| 130                        |              | OBS                | 0072                | 1346                 | 35753        | 2690    |                |   |               |                                       | 15045                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |      |
|                            |              | STD                | 0075                | 1342                 | 3574         | 2690    |                | 0011851                                   |               | 0096                                  | 15044                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |      |
| 130                        |              | OBS                | 0094                | 1320                 | 35697        | 2691    |                |   |               |                                       | 15039                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |      |
|                            |              | STD                | 0100                | 1313                 | 3569         | 2692    |                | 0011719                                   |               | 0125                                  | 15038                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |      |
|                            |              | STD                | 0125                | 1286                 | 3564         | 2693    |                | 0011631                                   |               | 0154                                  | 15032                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |      |
| 130                        |              | OBS                | 0142                | 1272                 | 35620        | 2695    |                |   |               |                                       | 15030                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |      |
|                            |              | STD                | 0150                | 1270                 | 3561         | 2694    |                | 0011611                                   |               | 0183                                  | 15031                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |      |
| 130                        |              | OBS                | T0187               | 1250                 | 35571        | 2695    |                |   |               |                                       | 15030                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |      |
|                            |              | STD                | 0200                | 1236                 | 3554         | 2696    |                | 0011610                                   |               | 0241                                  | 15027                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |      |
|                            |              | STD                | 0250                | 1177                 | 3544         | 2699    |                | 0011369                                   |               | 0299                                  | 15013                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |      |
| 130                        |              | OBS                | 0272                | 1150                 | 35397        | 2701    |                |   |               |                                       | 15007                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |      |
|                            |              | STD                | 0300                | 1109                 | 3533         | 2703    |                | 0011063                                   |               | 0355                                  | 14996                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |      |
| 130                        |              | OBS                | T0352               | 1044                 | 35240        | 2708    |                |   |               |                                       | 14981                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |      |
|                            |              | STD                | 0400                | 1008                 | 3521         | 2712    |                | 0010407                                   |               | 0462                                  | 14975                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |      |
| 130                        |              | OBS                | 0433                | 0975                 | 35189        | 2716    |                |   |               |                                       | 14968                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |      |
|                            |              | STD                | 0500                | 0883                 | 3512         | 2726    |                | 0009204                                   |               | 0560                                  | 14944                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |      |
| 130                        |              | OBS                | 0513                | 0865                 | 35110        | 2728    |                |   |               |                                       | 14940                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |      |
|                            |              | STD                | 0600                | 0734                 | 3497         | 2737    |                | 0008191                                   |               | 0647                                  | 14902                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |      |
| 130                        |              | OBS                | 0673                | 0649                 | 34928        | 2745    |                |   |               |                                       | 14880                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |      |
|                            |              | STD                | 0700                | 0629                 | 3495         | 2750    |                | 0006987                                   |               | 0723                                  | 14877                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |      |
|                            |              | STD                | 0800                | 0564                 | 3502         | 2764    |                | 0005718                                   |               | 0787                                  | 14869                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |      |
| 130                        |              | OBS                | T0836               | 0543                 | 35042        | 2768    |                |   |               |                                       | 14866                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |      |
|                            |              | STD                | 0900                | 0510                 | 3503         | 2771    |                | 0005051                                   |               | 0841                                  | 14863                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |      |
|                            |              | STD                | 1000                | 0469                 | 3501         | 2774    |                | 0004763                                   |               | 0890                                  | 14863                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |      |
|                            |              | STD                | 1100                | 0439                 | 3499         | 2776    |                | 0004623                                   |               | 0937                                  | 14867                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |      |
|                            |              | STD                | 1200                | 0421                 | 3497         | 2776    |                | 0004631                                   |               | 0983                                  | 14876                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |      |
| 130                        |              | OBS                | T1276               | 0416                 | 34960        | 2776    |                |   |               |                                       | 14886                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |      |

| REFERENCE                  | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MARS<br>SQUARE       | STATION TIME |         |                | YEAR                                      | ORIGINATOR'S  |                                       | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPL'S | WAVE<br>OBSERVATIONS            |                         |                                 | WEA-<br>THER<br>CODE            | CLOUD<br>CODES                    |     | NOCC<br>STATION<br>NUMBER |
|----------------------------|--------------|--------------------|---------------------|----------------------|--------------|---------|----------------|---|---------------|---------------------------------------|-----------------------|--------------------------------|---------------------------------|-------------------------|---------------------------------|---------------------------------|-----------------------------------|-----|---------------------------|
|                            |              |                    |                     |                      | 10°          | 1°      | MO DAY HR 1/10 |   | CRUISE<br>NO. | STATION<br>NUMBER                     |                       |                                | DIR                             | HGT                     | PER                             |                                 | TYPE                              | AMT |                           |
| 311265                     | DG           | 4345 N             | 04040 W             | 149 30               | 05           | 15      | 132            | 1968                                      | 016           | 010                                   |                       | 13                             | 27                              | 6                       | 3                               |                                 | 8                                 | 4   | 0010                      |
|                            |              |                    |                     | WATER                |              | WIND    |                | BARO-<br>METER                            |               | AIR TEMP. °C                          |                       | VIS<br>CODE                    | NO.<br>OBS.<br>DEPTH            | SPECIAL<br>OBSERVATIONS |                                 |                                 |                                   |     |                           |
| COLOR<br>CODE              |              | TRANS-<br>MIT      | DIR.                | SPEED<br>OF<br>FORCE | DRY<br>RULE  |         | WET<br>RULE    |   |               |                                       |                       |                                |                                 |                         |                                 |                                 |                                   |     |                           |
|                            |              |                    |                     |                      | 21           | 519     | 044            | 117                                       | 094           | 7                                     | 14                    |                                |                                 |                         |                                 |                                 |                                   |     |                           |
| MESSING<br>TIME<br>HR 1/10 | CASE<br>NO.  | CARD<br>TYPE       | DEPTH (m)           | T °C                 | S ‰          | SIGMA-T |                | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> |               | Σ Δ σ<br>DYN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY     | O <sub>2</sub> ml/l            | PO <sub>4</sub> -P<br>μg - dl/l | TOTAL-P<br>μg - dl/l    | NO <sub>3</sub> -N<br>μg - dl/l | NO <sub>3</sub> -N<br>μg - dl/l | SiO <sub>4</sub> -Si<br>μg - dl/l | pH  | °C                        |
|                            |              | STD                | 0000                | 1574                 | 3609         | 2666    |                | 0013905                                   |               | 0000                                  | 15110                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |
| 132                        |              | OBS                | 0000                | 1574                 | 36085        | 2666    |                |   |               |                                       | 15110                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |
|                            |              | STD                | 0010                | 1568                 | 3608         | 2667    |                | 0013814                                   |               | 0014                                  | 15110                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |
|                            |              | STD                | 0020                | 1565                 | 3608         | 2668    |                | 0013796                                   |               | 0028                                  | 15111                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |
| 132                        |              | OBS                | 0023                | 1564                 | 36082        | 2668    |                |   |               |                                       | 15111                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |
|                            |              | STD                | 0030                | 1564                 | 3608         | 2668    |                | 0013806                                   |               | 0041                                  | 15112                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |
| 132                        |              | OBS                | 0045                | 1564                 | 36082        | 2668    |                |   |               |                                       | 15115                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |
|                            |              | STD                | 0050                | 1554                 | 3607         | 2669    |                | 0013741                                   |               | 0069                                  | 15112                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |
| 132                        |              | OBS                | 0069                | 1512                 | 36020        | 2675    |                |   |               |                                       | 15102                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |
|                            |              | STD                | 0075                | 1454                 | 3601         | 2678    |                | 0012977                                   |               | 0102                                  | 15097                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |
| 132                        |              | OBS                | 0092                | 1454                 | 35989        | 2685    |                |   |               |                                       | 15087                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |
|                            |              | STD                | 0100                | 1451                 | 3598         | 2685    |                | 0012373                                   |               | 0134                                  | 15087                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |
|                            |              | STD                | 0125                | 1439                 | 3596         | 2686    |                | 0012346                                   |               | 0165                                  | 15087                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |
| 132                        |              | OBS                | 0141                | 1428                 | 35933        | 2687    |                |   |               |                                       | 15085                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |
|                            |              | STD                | 0150                | 1419                 | 3591         | 2687    |                | 0012373                                   |               | 0196                                  | 15084                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |
| 132                        |              | OBS                | T0183               | 1388                 | 35846        | 2688    |                |   |               |                                       | 15078                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |
|                            |              | STD                | 0200                | 1381                 | 3584         | 2689    |                | 0012255                                   |               | 0257                                  | 15079                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |
|                            |              | STD                | 0250                | 1352                 | 3580         | 2692    |                | 0012105                                   |               | 0318                                  | 15077                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |
| 132                        |              | OBS                | 0275                | 1334                 | 35765        | 2693    |                |   |               |                                       | 15075                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |
|                            |              | STD                | 0300                | 1314                 | 3573         | 2695    |                | 0011998                                   |               | 0379                                  | 15072                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |
| 132                        |              | OBS                | 0365                | 1244                 | 35605        | 2699    |                |   |               |                                       | 15057                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |
|                            |              | STD                | 0400                | 1191                 | 3552         | 2703    |                | 0011422                                   |               | 0496                                  | 15044                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |
| 132                        |              | OBS                | 0454                | 1107                 | 35390        | 2708    |                |   |               |                                       | 15000                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |
|                            |              | STD                | 0500                | 1028                 | 3528         | 2714    |                | 0010459                                   |               | 0605                                  | 14981                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |
| 132                        |              | OBS                | T0541               | 0962                 | 35199        | 2719    |                |   |               |                                       | 14931                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |
|                            |              | STD                | 0600                | 0874                 | 3514         | 2729    |                | 0009106                                   |               | 0703                                  | 14958                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |
|                            |              | STD                | 0700                | 0746                 | 3508         | 2744    |                | 0007726                                   |               | 0787                                  | 14925                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |
| 132                        |              | OBS                | 0706                | 0739                 | 35079        | 2745    |                |   |               |                                       | 14923                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |
|                            |              | STD                | 0800                | 0648                 | 3507         | 2757    |                | 0006516                                   |               | 0858                                  | 14903                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |
| 132                        |              | OBS                | T0871               | 0590                 | 35064        | 2764    |                |   |               |                                       | 14891                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |
|                            |              | STD                | 0900                | 0569                 | 3506         | 2766    |                | 0005621                                   |               | 0919                                  | 14888                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |
|                            |              | STD                | 1000                | 0506                 | 3505         | 2773    |                | 0004968                                   |               | 0972                                  | 14879                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |
|                            |              | STD                | 1100                | 0460                 | 3503         | 2777    |                | 0004622                                   |               | 1020                                  | 14876                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |
|                            |              | STD                | 1200                | 0432                 | 3501         | 2778    |                | 0004508                                   |               | 1066                                  | 14881                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |
|                            |              | STD                | 1300                | 0421                 | 3498         | 2777    |                | 0004683                                   |               | 1112                                  | 14893                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |
| 132                        |              | OBS                | T1340               | 0421                 | 34972        | 2776    |                |   |               |                                       | 14899                 |                                |                                 |                         |                                 |                                 |                                   |     |                           |



TABLE IX.—Continued

| REFERENCE<br>CRTR<br>FORM NO. | SHIP<br>CODE  | LATITUDE<br>° / 10' | LONGITUDE<br>° / 10' | ALDRN<br>SQUARE | MARSDEN<br>SQUARE   |         | STATION TIME<br>(GMT)          |              | YEAR                      | ORIGINATOR'S      |                        | DEPTH TO<br>BOTTOM             | WAVE<br>OBSERVATIONS |                                |                                |                                  | WEA-<br>THER<br>CODE | CLOUD<br>CODE | NODC<br>STATION<br>NUMBER |             |
|-------------------------------|---------------|---------------------|----------------------|-----------------|---------------------|---------|--------------------------------|--------------|---------------------------|-------------------|------------------------|--------------------------------|----------------------|--------------------------------|--------------------------------|----------------------------------|----------------------|---------------|---------------------------|-------------|
|                               |               |                     |                      |                 | 10"                 | 1"      | MO                             | DAY          |                           | HR./10'           | CRUISE<br>NO.          |                                | STATION<br>NUMBER    | SUNGLASS<br>DIR                | PERIOD<br>SEC                  | SEA                              |                      |               |                           | TYPE (% WT) |
| 311265                        | OG            | 4402 N              | 04051 W              | 149             | 60                  | 05      | 15                             | 140          | 1968                      | 018               | 011                    |                                | 17                   | 24                             | 0                              | 4                                | X1                   | 0             | 6                         | 0011        |
|                               |               | COLOR<br>CODE       | WATER                |                 | WIND                |         | BARO-<br>METER<br>(mbars)      | AIR TEMP. °C |                           | VIS<br>CODE       | NO.<br>OBS.<br>OFFICES | SPECIAL<br>OBSERVATIONS        |                      |                                |                                |                                  |                      |               |                           |             |
|                               |               |                     | TRANS<br>INI         | DIRL            | SPED<br>OR<br>FORCE |         | DRY<br>RULE                    | WET<br>RULE  |                           |                   |                        |                                |                      |                                |                                |                                  |                      |               |                           |             |
|                               |               |                     |                      |                 |                     |         | 22                             | 528          | 078                       | 139               | 111                    | 7                              | 13                   |                                |                                |                                  |                      |               |                           |             |
| MESSAGE<br>TYPE &<br>NR 1/10  | CAST<br># NO. | CARD<br>TYPE        | DEPTH (m)            | T °C            | S ‰                 | SIGMA-T | INCHIC VOLUME<br>AND MALT-SIB? |              | Z Δ D<br>DTN. M.<br>± 10' | SOUND<br>VELOCITY | O <sub>2</sub> ml/l    | PO <sub>4</sub> -P<br>μg - dl* | TOTAL-P<br>μg - dl*  | NO <sub>3</sub> -N<br>μg - dl* | NO <sub>3</sub> -N<br>μg - dl* | SiO <sub>4</sub> -Si<br>μg - dl* | pH                   |               |                           |             |
|                               |               | STD                 | 0000                 | 1522            | 3605                | 2675    | 0013016                        |              | 0000                      | 15094             |                        |                                |                      |                                |                                |                                  |                      |               |                           |             |
|                               |               | OBS                 | 0000                 | 1522            | 36054               | 2675    |                                |              |                           | 15094             |                        |                                |                      |                                |                                |                                  |                      |               |                           |             |
|                               |               | STD                 | 0010                 | 1521            | 3605                | 2675    | 0013055                        |              | 0013                      | 15095             |                        |                                |                      |                                |                                |                                  |                      |               |                           |             |
|                               |               | STD                 | 0020                 | 1519            | 3605                | 2676    | 0013044                        |              | 0026                      | 15096             |                        |                                |                      |                                |                                |                                  |                      |               |                           |             |
|                               |               | OBS                 | 0029                 | 1517            | 36049               | 2676    |                                |              |                           | 15097             |                        |                                |                      |                                |                                |                                  |                      |               |                           |             |
|                               |               | STD                 | 0030                 | 1517            | 3605                | 2676    | 0013047                        |              | 0039                      | 15097             |                        |                                |                      |                                |                                |                                  |                      |               |                           |             |
|                               |               | STD                 | 0050                 | 1513            | 3603                | 2676    | 0013127                        |              | 0065                      | 15099             |                        |                                |                      |                                |                                |                                  |                      |               |                           |             |
|                               |               | OBS                 | 0056                 | 1510            | 36030               | 2676    |                                |              |                           | 15099             |                        |                                |                      |                                |                                |                                  |                      |               |                           |             |
|                               |               | STD                 | 0075                 | 1492            | 3605                | 2682    | 0012650                        |              | 0098                      | 15097             |                        |                                |                      |                                |                                |                                  |                      |               |                           |             |
|                               |               | OBS                 | 0084                 | 1485            | 36058               | 2684    |                                |              |                           | 15096             |                        |                                |                      |                                |                                |                                  |                      |               |                           |             |
|                               |               | STD                 | 0100                 | 1478            | 3604                | 2684    | 0012498                        |              | 0129                      | 15036             |                        |                                |                      |                                |                                |                                  |                      |               |                           |             |
|                               |               | OBS                 | 0111                 | 1474            | 36032               | 2684    |                                |              |                           | 15097             |                        |                                |                      |                                |                                |                                  |                      |               |                           |             |
|                               |               | STD                 | 0125                 | 1470            | 3602                | 2684    | 0012552                        |              | 0160                      | 15097             |                        |                                |                      |                                |                                |                                  |                      |               |                           |             |
|                               |               | STD                 | 0150                 | 1460            | 3600                | 2685    | 0012565                        |              | 0192                      | 15098             |                        |                                |                      |                                |                                |                                  |                      |               |                           |             |
|                               |               | OBS                 | 0168                 | 1452            | 35983               | 2685    |                                |              |                           | 15098             |                        |                                |                      |                                |                                |                                  |                      |               |                           |             |
|                               |               | STD                 | 0200                 | 1439            | 3556                | 2686    | 0012568                        |              | 0255                      | 15099             |                        |                                |                      |                                |                                |                                  |                      |               |                           |             |
|                               |               | STD                 | 0250                 | 1407            | 3589                | 2688    | 0012564                        |              | 0317                      | 15096             |                        |                                |                      |                                |                                |                                  |                      |               |                           |             |
|                               |               | STD                 | 0300                 | 1362            | 3581                | 2691    | 0012374                        |              | 0380                      | 15089             |                        |                                |                      |                                |                                |                                  |                      |               |                           |             |
|                               |               | OBS                 | 0335                 | 1322            | 35743               | 2694    |                                |              |                           | 15080             |                        |                                |                      |                                |                                |                                  |                      |               |                           |             |
|                               |               | STD                 | 0400                 | 1228            | 3557                | 2700    | 0011758                        |              | 0500                      | 15057             |                        |                                |                      |                                |                                |                                  |                      |               |                           |             |
|                               |               | OBS                 | T0452                | 1142            | 35436               | 2706    |                                |              |                           | 15034             |                        |                                |                      |                                |                                |                                  |                      |               |                           |             |
|                               |               | STD                 | 0500                 | 1048            | 3531                | 2713    | 0010590                        |              | 0612                      | 15007             |                        |                                |                      |                                |                                |                                  |                      |               |                           |             |
|                               |               | OBS                 | 0559                 | 0934            | 35185               | 2723    |                                |              |                           | 14974             |                        |                                |                      |                                |                                |                                  |                      |               |                           |             |
|                               |               | STD                 | 0600                 | 0849            | 3511                | 2730    | 0008925                        |              | 0710                      | 14948             |                        |                                |                      |                                |                                |                                  |                      |               |                           |             |
|                               |               | OBS                 | T0668                | 0729            | 35014               | 2741    |                                |              |                           | 14912             |                        |                                |                      |                                |                                |                                  |                      |               |                           |             |
|                               |               | STD                 | 0700                 | 0690            | 3501                | 2746    | 0007412                        |              | 0791                      | 14902             |                        |                                |                      |                                |                                |                                  |                      |               |                           |             |
|                               |               | STD                 | 0800                 | 0589            | 3499                | 2758    | 0006279                        |              | 0860                      | 14878             |                        |                                |                      |                                |                                |                                  |                      |               |                           |             |
|                               |               | OBS                 | 0895                 | 0519            | 34981               | 2766    |                                |              |                           | 14866             |                        |                                |                      |                                |                                |                                  |                      |               |                           |             |
|                               |               | STD                 | 0900                 | 0517            | 3498                | 2766    | 0005504                        |              | 0919                      | 14866             |                        |                                |                      |                                |                                |                                  |                      |               |                           |             |
|                               |               | STD                 | 1000                 | 0488            | 3499                | 2770    | 0005209                        |              | 0972                      | 14870             |                        |                                |                      |                                |                                |                                  |                      |               |                           |             |
|                               |               | STD                 | 1100                 | 0463            | 3499                | 2773    | 0004962                        |              | 1023                      | 14877             |                        |                                |                      |                                |                                |                                  |                      |               |                           |             |
|                               |               | OBS                 | T1117                | 0459            | 34990               | 2774    |                                |              |                           | 14878             |                        |                                |                      |                                |                                |                                  |                      |               |                           |             |
|                               |               | STD                 | 1200                 | 0441            | 3499                | 2776    | 0004772                        |              | 1072                      | 14884             |                        |                                |                      |                                |                                |                                  |                      |               |                           |             |
|                               |               | STD                 | 1300                 | 0423            | 3499                | 2778    | 0004636                        |              | 1119                      | 14894             |                        |                                |                      |                                |                                |                                  |                      |               |                           |             |
|                               |               | STD                 | 1400                 | 0409            | 3498                | 2778    | 0004621                        |              | 1165                      | 14905             |                        |                                |                      |                                |                                |                                  |                      |               |                           |             |
|                               |               | STD                 | 1500                 | 0396            | 3497                | 2779    | 0004641                        |              | 1211                      | 14917             |                        |                                |                      |                                |                                |                                  |                      |               |                           |             |
|                               |               | OBS                 | T1681                | 0388            | 34953               | 2778    |                                |              |                           | 14943             |                        |                                |                      |                                |                                |                                  |                      |               |                           |             |

| REFERENCE<br>CRUISE NO.       | SNIP<br>CODE | LATITUDE<br>1/10 | LONGITUDE<br>2/10 | WATERS<br>SQUARE |             | STATION<br>TIME (GMT) |   | YEAR                                  | ORIGINATOR'S      |                     | DEPTH<br>TO BOTTOM              | WAVE<br>OBSERVATIONS |                                 | WEA-<br>THIR<br>CODE            | CLOUD<br>CODES<br>TTS (AMT)       | NOOC<br>STATION<br>NUMBER |
|-------------------------------|--------------|------------------|-------------------|------------------|-------------|-----------------------|---|---------------------------------------|-------------------|---------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|---------------------------|
|                               |              |                  |                   | 10'              | 1"          | MO                    | DAY                                       |                                       | HR                | 1/10                |                                 | CRUISE<br>NO.        | STATION<br>NUMBER               |                                 |                                   |                           |
| 311265                        | DG           | 4355 N           | 04052 W           | 149              | 30          | 05                    | 17 176                                    | 1968                                  | D18               | 012                 | 12                              | 26                   | 3 2                             |                                 | 8 3                               | 0012                      |
|                               |              |                  |                   | WATER            |             | WIND                  |   | AIR TEMP. °C                          |                   |                     |                                 |                      |                                 |                                 |                                   |                           |
|                               |              |                  |                   | COLOR            | TRANS-<br>M | DIR                   | SPEED<br>OR<br>FORCE                      | BARO-<br>METER                        | DRY<br>RULE       | WET<br>RULE         | WIL<br>CODE                     | NO.<br>OBS.<br>DEPTH | SPECIAL<br>OBSERVATIONS         |                                 |                                   |                           |
|                               |              |                  |                   |                  |             |                       | 22  | 520                                   | 176               | 150                 | 111                             | 7                    | 14                              |                                 |                                   |                           |
| MESSAGE<br>TIME, G<br>HR 1/10 | CASE<br>NO.  | CARD<br>TYPE     | DEPTH (m)         | T °C             | S ‰         | SIGMA-T               | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> | Σ Δ D<br>DTN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - at/l | TOTAL-P<br>μg - at/l | NO <sub>3</sub> -N<br>μg - at/l | NO <sub>2</sub> -N<br>μg - at/l | SiO <sub>4</sub> -Si<br>μg - at/l | pH                        |
| 176                           |              | STD              | 0000              | 15.68            | 36.09       | 2667                  | 0013775                                   | 0000                                  | 15109             |                     |                                 |                      |                                 |                                 |                                   |                           |
|                               |              | OBS              | 0000              | 15.68            | 36.085      | 2667                  |   |                                       | 15109             |                     |                                 |                      |                                 |                                 |                                   |                           |
|                               |              | STD              | 0010              | 15.67            | 36.09       | 2668                  | 0013740                                   | 0014                                  | 15110             |                     |                                 |                      |                                 |                                 |                                   |                           |
| 176                           |              | STD              | 0020              | 15.65            | 36.09       | 2668                  | 0013744                                   | 0027                                  | 15111             |                     |                                 |                      |                                 |                                 |                                   |                           |
|                               |              | OBS              | 0022              | 15.65            | 36.093      | 2669                  |   |                                       | 15111             |                     |                                 |                      |                                 |                                 |                                   |                           |
|                               |              | STD              | 0030              | 15.64            | 36.09       | 2669                  | 0013745                                   | 0041                                  | 15112             |                     |                                 |                      |                                 |                                 |                                   |                           |
| 176                           |              | OBS              | 0043              | 15.62            | 36.068      | 2669                  |   |                                       | 15114             |                     |                                 |                      |                                 |                                 |                                   |                           |
|                               |              | STD              | 0050              | 15.49            | 36.08       | 2671                  | 0013560                                   | 0069                                  | 15111             |                     |                                 |                      |                                 |                                 |                                   |                           |
|                               |              | OBS              | 0063              | 15.24            | 36.056      | 2675                  |   |                                       | 15105             |                     |                                 |                      |                                 |                                 |                                   |                           |
| 176                           |              | STD              | 0075              | 15.00            | 36.05       | 2680                  | 0012812                                   | 0102                                  | 15099             |                     |                                 |                      |                                 |                                 |                                   |                           |
|                               |              | OBS              | 0085              | 14.82            | 36.031      | 2682                  |   |                                       | 15095             |                     |                                 |                      |                                 |                                 |                                   |                           |
|                               |              | STD              | 0100              | 14.61            | 35.99       | 2684                  | 0012508                                   | 0133                                  | 15070             |                     |                                 |                      |                                 |                                 |                                   |                           |
| 176                           |              | STD              | 0125              | 14.28            | 35.92       | 2686                  | 0012411                                   | 0164                                  | 15083             |                     |                                 |                      |                                 |                                 |                                   |                           |
|                               |              | OBS              | 0128              | 14.24            | 35.908      | 2685                  |   |                                       | 15082             |                     |                                 |                      |                                 |                                 |                                   |                           |
|                               |              | STD              | 0150              | 13.93            | 35.85       | 2688                  | 0012261                                   | 0195                                  | 15075             |                     |                                 |                      |                                 |                                 |                                   |                           |
| 176                           |              | OBS              | 0170              | 13.70            | 35.809      | 2689                  |   |                                       | 15070             |                     |                                 |                      |                                 |                                 |                                   |                           |
|                               |              | STD              | 0200              | 13.56            | 35.79       | 2691                  | 0012117                                   | 0256                                  | 15070             |                     |                                 |                      |                                 |                                 |                                   |                           |
|                               |              | STD              | 0250              | 13.37            | 35.78       | 2694                  | 0011951                                   | 0316                                  | 15072             |                     |                                 |                      |                                 |                                 |                                   |                           |
| 176                           |              | OBS              | 0256              | 13.35            | 35.774      | 2694                  |   |                                       | 15072             |                     |                                 |                      |                                 |                                 |                                   |                           |
|                               |              | STD              | 0300              | 13.31            | 35.77       | 2694                  | 0012051                                   | 0376                                  | 15078             |                     |                                 |                      |                                 |                                 |                                   |                           |
|                               |              | OBS              | 0338              | 13.20            | 35.764      | 2696                  |   |                                       | 15080             |                     |                                 |                      |                                 |                                 |                                   |                           |
| 176                           |              | STD              | 0400              | 12.94            | 35.71       | 2697                  | 0012020                                   | 0497                                  | 15081             |                     |                                 |                      |                                 |                                 |                                   |                           |
|                               |              | OBS              | 0413              | 12.79            | 35.687      | 2699                  |   |                                       | 15078             |                     |                                 |                      |                                 |                                 |                                   |                           |
|                               |              | OBS              | 0448              | 11.45            | 35.462      | 2707                  |   |                                       | 15041             |                     |                                 |                      |                                 |                                 |                                   |                           |
| 176                           |              | STD              | 0500              | 11.01            | 35.41       | 2711                  | 0010807                                   | 0611                                  | 15027             |                     |                                 |                      |                                 |                                 |                                   |                           |
|                               |              | STD              | 0600              | 08.64            | 35.13       | 2730                  | 0009018                                   | 0710                                  | 14954             |                     |                                 |                      |                                 |                                 |                                   |                           |
|                               |              | OBS              | 0623              | 08.20            | 35.080      | 2733                  |   |                                       | 14940             |                     |                                 |                      |                                 |                                 |                                   |                           |
| 176                           |              | STD              | 0700              | 07.09            | 35.00       | 2743                  | 0007763                                   | 0774                                  | 14909             |                     |                                 |                      |                                 |                                 |                                   |                           |
|                               |              | OBS              | 0774              | 06.20            | 34.950      | 2751                  |   |                                       | 14885             |                     |                                 |                      |                                 |                                 |                                   |                           |
|                               |              | STD              | 0800              | 06.10            | 34.95       | 2752                  | 0006840                                   | 0867                                  | 14886             |                     |                                 |                      |                                 |                                 |                                   |                           |
| 176                           |              | STD              | 0900              | 05.71            | 34.97       | 2758                  | 0006343                                   | 0933                                  | 14887             |                     |                                 |                      |                                 |                                 |                                   |                           |
|                               |              | STD              | 1000              | 05.32            | 34.98       | 2764                  | 0005844                                   | 0994                                  | 14888             |                     |                                 |                      |                                 |                                 |                                   |                           |
|                               |              | STD              | 1100              | 04.94            | 34.99       | 2770                  | 0005345                                   | 1050                                  | 14889             |                     |                                 |                      |                                 |                                 |                                   |                           |
| 176                           |              | OBS              | 1112              | 04.58            | 35.004      | 2775                  |   |                                       | 14890             |                     |                                 |                      |                                 |                                 |                                   |                           |



TABLE IX.—Continued

| REFERENCE<br>CTRY<br>CODE  | ID.<br>NO.  | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MARS<br>SQUARE | STATION TIME<br>(GMT) |   |                | YEAR                                  | ORIGINATOR'S   |                   | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPL'S  | WAVE<br>OBSERVATIONS |                                 |                                 |                                    | WEA-<br>THER<br>CODE | CLOUD<br>CODES | NOCC<br>STATION<br>NUMBER |  |      |
|----------------------------|-------------|--------------|--------------------|---------------------|----------------|-----------------------|---|----------------|---------------------------------------|----------------|-------------------|-----------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|------------------------------------|----------------------|----------------|---------------------------|--|------|
|                            |             |              |                    |                     |                | 10"                   | 1"  | MO DAY HR.1/10 |                                       | CRUISE<br>NO.  | STATION<br>NUMBER |                       |                                 | DIR.                 | HGT                             | PER                             | SEA                                |                      |                |                           |  |      |
| 311265                     | DG          |              | 4400 N             | 04100 W             |                | 149                   | 41  | 05 18 122      | 1968                                  | 018            | 013               |                       |                                 | 42                   | 19                              | 4                               | 2                                  |                      | X5             | 3 0                       |  | 0013 |
|                            |             |              |                    |                     |                | WATER                 |   | WIND           |                                       | BARO-<br>METER |                   | AIR TEMP. °C          |                                 | VIL<br>CODE          | NO.<br>OBS.<br>DEPTH'S          | SPECIAL<br>OBSERVATIONS         |                                    |                      |                |                           |  |      |
|                            |             |              |                    |                     |                | COLOR<br>CODE         | TRANSL<br>(m)                             | DIR.           | SPEED<br>OR<br>FORCE                  | DEPTH<br>(mb)  | DRY<br>BULB       | WET<br>BULB           |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
|                            |             |              |                    |                     |                |                       |   |                | 19                                    | 527            | 152               | 161                   | 150                             |                      | 07                              |                                 |                                    |                      |                |                           |  |      |
| MISSING<br>TIME<br>MR 1/10 | CASE<br>NO. | CARD<br>TYPE | DEPTH (m)          | T °C                | S ‰            | SIGMA-t               | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> |                | Σ Δ D<br>DYN. M.<br>x 10 <sup>3</sup> |                | SOUND<br>VELOCITY | O <sub>2</sub> ml/l   | PO <sub>4</sub> -P<br>µg - µl/l | TOTAL-P<br>µg - µl/l | NO <sub>3</sub> -N<br>µg - µl/l | NO <sub>2</sub> -N<br>µg - µl/l | Si O <sub>4</sub> -Si<br>µg - µl/l | pH                   | °C             |                           |  |      |
| 122                        |             | 085          | 2027               |                     |                | 34931                 |   |                |                                       |                |                   |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
|                            |             | STD          | 2500               |                     |                | 3495                  |   |                |                                       |                |                   |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
| 122                        |             | 085          | T2528              | 0349                |                | 34946                 | 2782                                      |                | 0004980                               |                |                   |                       | 15065                           |                      |                                 |                                 |                                    |                      |                |                           |  |      |
|                            |             | STD          | 3000               | 0322                |                | 3493                  | 2783                                      |                |                                       |                |                   |                       | 15134                           |                      |                                 |                                 |                                    |                      |                |                           |  |      |
| 122                        |             | 085          | 3026               | 0321                |                | 34932                 | 2783                                      |                |                                       |                |                   |                       | 15139                           |                      |                                 |                                 |                                    |                      |                |                           |  |      |
| 122                        |             | 085          | 3524               | 0292                |                | 34927                 | 2786                                      |                |                                       |                |                   |                       | 15213                           |                      |                                 |                                 |                                    |                      |                |                           |  |      |
| 122                        |             | 085          | T3647              | 0285                |                | 34934                 | 2787                                      |                |                                       |                |                   |                       | 15232                           |                      |                                 |                                 |                                    |                      |                |                           |  |      |
| 122                        |             | 085          | 4022Q              | 0256                |                | 34910                 | 2787Q                                     |                |                                       |                |                   |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
| 122                        |             | 085          | 4190Q              | 0247                |                | 34927                 | 2790Q                                     |                |                                       |                |                   |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |

| REFERENCE<br>CTRY<br>CODE  | ID.<br>NO.  | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MARS<br>SQUARE | STATION TIME<br>(GMT) |   |                | YEAR                                  | ORIGINATOR'S   |                   | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPL'S  | WAVE<br>OBSERVATIONS |                                 |                                 |                                    | WEA-<br>THER<br>CODE | CLOUD<br>CODES | NOCC<br>STATION<br>NUMBER |  |      |
|----------------------------|-------------|--------------|--------------------|---------------------|----------------|-----------------------|---|----------------|---------------------------------------|----------------|-------------------|-----------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|------------------------------------|----------------------|----------------|---------------------------|--|------|
|                            |             |              |                    |                     |                | 10"                   | 1"  | MO DAY HR.1/10 |                                       | CRUISE<br>NO.  | STATION<br>NUMBER |                       |                                 | DIR.                 | HGT                             | PER                             | SEA                                |                      |                |                           |  |      |
| 311265                     | DG          |              | 4437 N             | 04110 W             |                | 149                   | 41  | 05 19 131      | 1960                                  | 018            | 014               |                       |                                 | 13                   | 18                              | 4                               | 2                                  |                      |                | 0 3                       |  | 0014 |
|                            |             |              |                    |                     |                | WATER                 |   | WIND           |                                       | BARO-<br>METER |                   | AIR TEMP. °C          |                                 | VIL<br>CODE          | NO.<br>OBS.<br>DEPTH'S          | SPECIAL<br>OBSERVATIONS         |                                    |                      |                |                           |  |      |
|                            |             |              |                    |                     |                | COLOR<br>CODE         | TRANSL<br>(m)                             | DIR.           | SPEED<br>OR<br>FORCE                  | DEPTH<br>(mb)  | DRY<br>BULB       | WET<br>BULB           |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
|                            |             |              |                    |                     |                |                       |   |                | 24                                    | 518            | 064               | 156                   | 150                             | 7                    | 14                              |                                 |                                    |                      |                |                           |  |      |
| MISSING<br>TIME<br>MR 1/10 | CASE<br>NO. | CARD<br>TYPE | DEPTH (m)          | T °C                | S ‰            | SIGMA-t               | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> |                | Σ Δ D<br>DYN. M.<br>x 10 <sup>3</sup> |                | SOUND<br>VELOCITY | O <sub>2</sub> ml/l   | PO <sub>4</sub> -P<br>µg - µl/l | TOTAL-P<br>µg - µl/l | NO <sub>3</sub> -N<br>µg - µl/l | NO <sub>2</sub> -N<br>µg - µl/l | Si O <sub>4</sub> -Si<br>µg - µl/l | pH                   | °C             |                           |  |      |
| 131                        |             | STD          | 0000               | 1473                | 3580           | 2666                  | 0013865                                   |                | 0000                                  |                | 15075             |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
|                            |             | OPS          | 0000               | 1473                | 35797          | 2666                  |   |                |                                       |                | 15075             |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
|                            |             | STD          | 0010               | 1478                | 3580           | 2665                  | 0013977                                   |                | 0014                                  |                | 15078             |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
| 131                        |             | 085          | 0019               | 1482                | 35806          | 2665                  |   |                |                                       |                | 15081             |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
|                            |             | STD          | 0020               | 1482                | 3581           | 2665                  | 0014029                                   |                | 0028                                  |                | 15082             |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
|                            |             | STD          | 0030               | 1484                | 3582           | 2665                  | 0014049                                   |                | 0042                                  |                | 15084             |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
| 131                        |             | 085          | 0037               | 1485                | 35820          | 2665                  |   |                |                                       |                | 15085             |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
|                            |             | STD          | 0050               | 1517                | 3559           | 2671                  | 0013532                                   |                | 0070                                  |                | 15100             |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
| 131                        |             | OPS          | 0055               | 1522                | 36026          | 2673                  |   |                |                                       |                | 15102             |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
| 131                        |             | 085          | 0074               | 1507                | 36007          | 2675                  |   |                |                                       |                | 15101             |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
|                            |             | STD          | 0075               | 1505                | 3601           | 2675                  | 0013239                                   |                | 0103                                  |                | 15100             |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
|                            |             | STD          | 0100               | 1466                | 3598           | 2682                  | 0012722                                   |                | 0135                                  |                | 15091             |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
| 131                        |             | 085          | 0111               | 1451                | 35561          | 2684                  |   |                |                                       |                | 15088             |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
|                            |             | STD          | 0125               | 1435                | 3553           | 2685                  | 0012482                                   |                | 0167                                  |                | 15085             |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
| 131                        |             | 085          | 0149               | 1407                | 35884          | 2687                  |   |                |                                       |                | 15079             |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
|                            |             | STD          | 0150               | 1406                | 3588           | 2687                  | 0012326                                   |                | 0198                                  |                | 15079             |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
|                            |             | STD          | 0200               | 1344                | 3573           | 2689                  | 0012310                                   |                | 0260                                  |                | 15065             |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
| 131                        |             | 085          | 0226               | 1315                | 35679          | 2690                  |   |                |                                       |                | 15061             |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
|                            |             | STD          | 0250               | 1302                | 3566           | 2692                  | 0012151                                   |                | 0321                                  |                | 15059             |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
|                            |             | STD          | 0300               | 1277                | 3561           | 2693                  | 0012119                                   |                | 0381                                  |                | 15058             |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
| 131                        |             | 085          | T0304              | 1276                | 35610          | 2693                  |   |                |                                       |                | 15058             |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
| 131                        |             | 085          | 0384               | 1266                | 35644          | 2698                  |   |                |                                       |                | 15068             |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
|                            |             | STD          | 0400               | 1249                | 3561           | 2695                  | 0011870                                   |                | 0501                                  |                | 15065             |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
| 131                        |             | 085          | T0469              | 1157                | 35471          | 2705                  |   |                |                                       |                | 15043             |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
|                            |             | STD          | 0500               | 1082                | 2537           | 2711                  | 0010750                                   |                | 0614                                  |                | 15020             |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
|                            |             | STD          | 0600               | 0871                | 3512           | 2728                  | 0009204                                   |                | 0714                                  |                | 14956             |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
| 131                        |             | 085          | 0626               | 0624                | 35075          | 2732                  |   |                |                                       |                | 14942             |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
|                            |             | STD          | 0700               | 0717                | 3503           | 2744                  | 0007661                                   |                | 0799                                  |                | 14913             |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
| 131                        |             | 085          | T0795              | 0603                | 34978          | 2755                  |   |                |                                       |                | 14883             |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
|                            |             | STD          | 0800               | 0601                | 3498           | 2755                  | 0006535                                   |                | 0870                                  |                | 14883             |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
|                            |             | STD          | 0900               | 0564                | 3498           | 2760                  | 0006175                                   |                | 0933                                  |                | 14885             |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
|                            |             | STD          | 1000               | 0527                | 3498           | 2764                  | 0005806                                   |                | 0993                                  |                | 14886             |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
|                            |             | STD          | 1100               | 0491                | 3497           | 2769                  | 0005442                                   |                | 1049                                  |                | 14888             |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
|                            |             | STD          | 1200               | 0454                | 3497           | 2773                  | 0005070                                   |                | 1102                                  |                | 14889             |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |
| 131                        |             | 085          | T1253              | 0434                | 34970          | 2775                  |   |                |                                       |                | 14890             |                       |                                 |                      |                                 |                                 |                                    |                      |                |                           |  |      |



TABLE IX.—Continued

| REFERENCE<br>SHIP<br>CODE  | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | HARDEN<br>SQUARE | STATION TIME<br>(GMT) | YEAR           | ORIGINATOR'S                        |                                     | DEPTH<br>TO<br>BOTTOM | WAVE<br>OBSERVATIONS | WAVE<br>DIRECTION               | WAVE<br>PERIOD          | WAVE<br>SEA                     | WAVE<br>CODE                    | CLOUD<br>CODE                     | NODC<br>STATION<br>NUMBER |
|----------------------------|--------------|--------------------|---------------------|------------------|-----------------------|----------------|-------------------------------------|-------------------------------------|-----------------------|----------------------|---------------------------------|-------------------------|---------------------------------|---------------------------------|-----------------------------------|---------------------------|
|                            |              |                    |                     |                  |                       |                | CRUISE<br>NO.                       | STATION<br>NUMBER                   |                       |                      |                                 |                         |                                 |                                 |                                   |                           |
| 311265                     | OG           | 4359 N             | 04056 W             | 149 30           | 05 20 130             | 1968           | 018                                 | 015                                 | 13                    | 15                   | 4                               | 3                       |                                 | X1                              | 3 6                               | 0015                      |
|                            |              |                    |                     |                  |                       |                |                                     |                                     |                       |                      |                                 |                         |                                 |                                 |                                   |                           |
|                            |              | WATER              |                     | WIND             |                       | BARO-<br>METER |                                     | AIR TEMP. °C                        |                       | NO. OBS.<br>DEPTH    |                                 | SPECIAL<br>OBSERVATIONS |                                 |                                 |                                   |                           |
|                            |              | COLOR<br>CODE      | TRANS<br>MIL        | DIR              | SPEED<br>KTS          | DRY<br>BULB    | WET<br>BULB                         | VIS<br>CODE                         | NO. OBS.<br>DEPTH     |                      |                                 |                         |                                 |                                 |                                   |                           |
|                            |              | 17                 | 51.8                | 102              | 144                   | 117            | 7                                   | 14                                  |                       |                      |                                 |                         |                                 |                                 |                                   |                           |
| MESSAGE<br>TIME<br>HR 1/10 | CARD<br>NO.  | CARD<br>TYPE       | DEPTH<br>m          | T °C             | S ‰                   | SIGMA-T        | SPECIFIC VOLUME<br>AND WALT-<br>STP | Σ Δ D<br>DTN. M.<br>10 <sup>3</sup> | SOUND<br>VELOCITY     | O <sub>2</sub> ml/l  | PO <sub>2</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l    | NO <sub>2</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | PH                        |
| 130                        | STO          | 0000               | 1562                | 3611             | 2670                  | 0013485        | 0000                                | 15107                               |                       |                      |                                 |                         |                                 |                                 |                                   |                           |
|                            | OBS          | 0000               | 1562                | 36107            | 2670                  | 0013568        | 0014                                | 15108                               |                       |                      |                                 |                         |                                 |                                 |                                   |                           |
| 130                        | STO          | 0010               | 1562                | 3610             | 2670                  |                |                                     | 15110                               |                       |                      |                                 |                         |                                 |                                 |                                   |                           |
|                            | OBS          | 0019               | 1561                | 36094            | 2670                  |                |                                     | 15110                               |                       |                      |                                 |                         |                                 |                                 |                                   |                           |
| 130                        | STO          | 0020               | 1561                | 3609             | 2670                  | 0013620        | 0027                                | 15111                               |                       |                      |                                 |                         |                                 |                                 |                                   |                           |
|                            | STO          | 0030               | 1560                | 3610             | 2670                  | 0013615        | 0041                                | 15112                               |                       |                      |                                 |                         |                                 |                                 |                                   |                           |
| 130                        | OBS          | 0038               | 1559                | 36058            | 2670                  |                |                                     | 15109                               |                       |                      |                                 |                         |                                 |                                 |                                   |                           |
|                            | STO          | 0050               | 1543                | 3607             | 2672                  | 0013504        | 0068                                | 15107                               |                       |                      |                                 |                         |                                 |                                 |                                   |                           |
| 130                        | OBS          | 0057               | 1533                | 36059            | 2673                  |                |                                     | 15101                               |                       |                      |                                 |                         |                                 |                                 |                                   |                           |
|                            | STO          | 0075               | 1505                | 3604             | 2678                  | 0012961        | 0101                                | 15100                               |                       |                      |                                 |                         |                                 |                                 |                                   |                           |
| 130                        | OBS          | 0076               | 1504                | 36043            | 2678                  |                |                                     | 15091                               |                       |                      |                                 |                         |                                 |                                 |                                   |                           |
|                            | STO          | 0100               | 1465                | 3598             | 2682                  | 0012664        | 0133                                | 15088                               |                       |                      |                                 |                         |                                 |                                 |                                   |                           |
| 130                        | OBS          | 0114               | 1450                | 35950            | 2683                  |                |                                     | 15089                               |                       |                      |                                 |                         |                                 |                                 |                                   |                           |
|                            | STO          | 0125               | 1447                | 3595             | 2684                  | 0012584        | 0165                                | 15090                               |                       |                      |                                 |                         |                                 |                                 |                                   |                           |
| 130                        | STO          | 0150               | 1437                | 3594             | 2685                  | 0012525        | 0196                                | 15090                               |                       |                      |                                 |                         |                                 |                                 |                                   |                           |
|                            | OBS          | T0156              | 1435                | 35939            | 2685                  |                |                                     | 15089                               |                       |                      |                                 |                         |                                 |                                 |                                   |                           |
| 130                        | STO          | 0200               | 1412                | 3588             | 2686                  | 0012595        | 0259                                | 15088                               |                       |                      |                                 |                         |                                 |                                 |                                   |                           |
|                            | OBS          | 0237               | 1391                | 35848            | 2688                  |                |                                     | 15036                               |                       |                      |                                 |                         |                                 |                                 |                                   |                           |
| 130                        | STO          | 0250               | 1379                | 3584             | 2690                  | 0012357        | 0321                                | 15083                               |                       |                      |                                 |                         |                                 |                                 |                                   |                           |
|                            | STO          | 0300               | 1346                | 3580             | 2694                  | 0012125        | 0382                                | 15084                               |                       |                      |                                 |                         |                                 |                                 |                                   |                           |
| 130                        | OBS          | 0321               | 1337                | 35793            | 2695                  |                |                                     | 15095                               |                       |                      |                                 |                         |                                 |                                 |                                   |                           |
|                            | STO          | 0400               | 1333                | 3579             | 2696                  | 0012204        | 0504                                | 15096                               |                       |                      |                                 |                         |                                 |                                 |                                   |                           |
| 130                        | OBS          | 0409               | 1332                | 35789            | 2696                  |                |                                     | 15063                               |                       |                      |                                 |                         |                                 |                                 |                                   |                           |
|                            | OBS          | T0497              | 1201                | 35539            | 2702                  |                |                                     | 14987                               |                       |                      |                                 |                         |                                 |                                 |                                   |                           |
| 130                        | STO          | 0500               | 1193                | 3553             | 2703                  | 0011637        | 0623                                | 14942                               |                       |                      |                                 |                         |                                 |                                 |                                   |                           |
|                            | STO          | 0600               | 0948                | 3524             | 2725                  | 0005594        | 0729                                | 14932                               |                       |                      |                                 |                         |                                 |                                 |                                   |                           |
| 130                        | OBS          | 0676               | 0800                | 35092            | 2737                  |                |                                     | 14899                               |                       |                      |                                 |                         |                                 |                                 |                                   |                           |
|                            | STO          | 0700               | 0766                | 3508             | 2741                  | 0008030        | 0817                                | 14884                               |                       |                      |                                 |                         |                                 |                                 |                                   |                           |
| 130                        | STO          | 0800               | 0641                | 3502             | 2754                  | 0006784        | 0891                                | 14886                               |                       |                      |                                 |                         |                                 |                                 |                                   |                           |
|                            | OBS          | T0859              | 0580                | 34994            | 2759                  |                |                                     | 14890                               |                       |                      |                                 |                         |                                 |                                 |                                   |                           |
| 130                        | STO          | 0900               | 0567                | 3499             | 2761                  | 0006094        | 0956                                | 14886                               |                       |                      |                                 |                         |                                 |                                 |                                   |                           |
|                            | STO          | 1000               | 0535                | 3499             | 2764                  | 0005833        | 1016                                | 14890                               |                       |                      |                                 |                         |                                 |                                 |                                   |                           |
| 130                        | STO          | 1100               | 0504                | 3498             | 2768                  | 0005569        | 1073                                | 14893                               |                       |                      |                                 |                         |                                 |                                 |                                   |                           |
|                            | STO          | 1200               | 0472                | 3497             | 2771                  | 0005299        | 1127                                | 14897                               |                       |                      |                                 |                         |                                 |                                 |                                   |                           |
| 130                        | STO          | 1300               | 0441                | 3497             | 2774                  | 0005027        | 1179                                | 14901                               |                       |                      |                                 |                         |                                 |                                 |                                   |                           |
|                            | OBS          | T1349              | 0425                | 34565            | 2775                  |                |                                     | 14902                               |                       |                      |                                 |                         |                                 |                                 |                                   |                           |

| REFERENCE<br>SHIP<br>CODE  | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | HARDEN<br>SQUARE | STATION TIME<br>(GMT) | YEAR           | ORIGINATOR'S                              |                                     | DEPTH<br>TO<br>BOTTOM | WAVE<br>OBSERVATIONS    | WAVE<br>DIRECTION               | WAVE<br>PERIOD       | WAVE<br>SEA                     | WAVE<br>CODE                    | CLOUD<br>CODE                     | NODC<br>STATION<br>NUMBER |
|----------------------------|--------------|--------------------|---------------------|------------------|-----------------------|----------------|---|-------------------------------------|-----------------------|-------------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|---------------------------|
|                            |              |                    |                     |                  |                       |                | CRUISE<br>NO.                             | STATION<br>NUMBER                   |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
|                            |              |                    |                     |                  |                       |                |   |                                     |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
| 311265                     | OG           | 4358 N             | 04101 W             | 149 31           | 05 21 129             | 1968           | 018                                       | 016                                 | 15                    | 16                      | 4                               | 2                    |                                 | X1                              | 8 7                               | 0016                      |
|                            |              |                    |                     |                  |                       |                |   |                                     |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
|                            |              | WATER              |                     | WIND             |                       | AIR TEMP. °C   |   | NO. OBS.<br>DEPTH                   |                       | SPECIAL<br>OBSERVATIONS |                                 |                      |                                 |                                 |                                   |                           |
|                            |              | COLOR<br>CODE      | TRANS<br>MIL        | DIR              | SPEED<br>KTS          | BARO-<br>METER | DRY<br>BULB                               | WET<br>BULB                         | VIS<br>CODE           |                         |                                 |                      |                                 |                                 |                                   |                           |
|                            |              |                    |                     | 23               | 51.0                  | 071            | 133                                       | 111                                 | 7                     |                         |                                 |                      |                                 |                                 |                                   |                           |
| MESSAGE<br>TIME<br>HR 1/10 | CARD<br>NO.  | CARD<br>TYPE       | DEPTH<br>m          | T °C             | S ‰                   | SIGMA-T        | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> | Σ Δ D<br>DTN. M.<br>10 <sup>3</sup> | SOUND<br>VELOCITY     | O <sub>2</sub> ml/l     | PO <sub>2</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l | NO <sub>2</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | PH                        |
| 129                        | STO          | 0000               | 1559                | 3610             | 2670                  | 0013486        | 0000                                      | 15106                               |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
|                            | OBS          | 0000               | 1559                | 36098            | 2670                  |                |   | 15106                               |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
| 129                        | STO          | 0010               | 1555                | 3610             | 2671                  | 0013446        | 0013                                      | 15106                               |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
|                            | STO          | 0020               | 1553                | 3609             | 2671                  | 0013449        | 0027                                      | 15107                               |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
| 129                        | OBS          | 0028               | 1552                | 36092            | 2671                  |                |   | 15108                               |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
|                            | STO          | 0030               | 1552                | 3609             | 2671                  | 0013476        | 0040                                      | 15109                               |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
| 129                        | STO          | 0050               | 1554                | 3609             | 2671                  | 0013557        | 0067                                      | 15112                               |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
|                            | OBS          | 0055               | 1554                | 36094            | 2671                  |                |   | 15113                               |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
| 129                        | STO          | 0075               | 1535                | 3609             | 2675                  | 0013265        | 0101                                      | 15111                               |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
|                            | OBS          | 0083               | 1525                | 36077            | 2676                  |                |   | 15109                               |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
| 129                        | STO          | 0100               | 1498                | 3603             | 2679                  | 0012992        | 0134                                      | 15102                               |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
|                            | OBS          | 0109               | 1485                | 36012            | 2680                  |                |   | 15099                               |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
| 129                        | STO          | 0125               | 1468                | 3599             | 2682                  | 0012729        | 0166                                      | 15096                               |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
|                            | STO          | 0150               | 1446                | 3596             | 2685                  | 0012565        | 0198                                      | 15093                               |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
| 129                        | OBS          | 0165               | 1434                | 35944            | 2686                  |                |   | 15092                               |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
|                            | STO          | 0200               | 1415                | 3590             | 2687                  | 0012510        | 0260                                      | 15091                               |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
| 129                        | OBS          | T0219              | 1404                | 35880            | 2688                  |                |   | 15090                               |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
|                            | STO          | 0250               | 1385                | 3586             | 2690                  | 0012333        | 0322                                      | 15087                               |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
| 129                        | STO          | 0300               | 1354                | 3583             | 2694                  | 0012067        | 0383                                      | 15086                               |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
|                            | OBS          | 0328               | 1336                | 35802            | 2696                  |                |   | 15084                               |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
| 129                        | STO          | 0400               | 1308                | 3572             | 2695                  | 0012225        | 0505                                      | 15086                               |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
|                            | OBS          | T0437              | 1262                | 35662            | 2700                  |                |   | 15076                               |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
| 129                        | STO          | 0500               | 1107                | 3546             | 2714                  | 0010550        | 0619                                      | 15030                               |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
|                            | OBS          | 0544               | 1011                |                  |                       |                |   | 14971                               |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
| 129                        | STO          | 0600               | 0907                | 3520             | 2728                  | 0009204        | 0717                                      | 14946                               |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
|                            | OBS          | T0650              | 0822                | 35111            | 2735                  |                |   | 14921                               |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
| 129                        | STO          | 0700               | 0727                | 3506             | 2743                  | 0007738        | 0802                                      | 14884                               |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
|                            | STO          | 0800               | 0603                | 3500             | 2757                  | 0006398        | 0873                                      | 14870                               |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
| 129                        | OBS          | 0859               | 0546                | 34974            | 2762                  |                |   | 14871                               |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
|                            | STO          | 0903               | 0530                | 3498             | 2765                  | 0005683        | 0933                                      | 14873                               |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
| 129                        | STO          | 1000               | 0494                | 3498             | 2769                  | 0005325        | 0988                                      | 14876                               |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
|                            | OBS          | T1068              | 0473                | 34985            | 2772                  |                |   | 14877                               |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
| 129                        | STO          | 1100               | 0464                | 3499             | 2773                  | 0005005        | 1040                                      | 14883                               |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
|                            | STO          | 1200               | 0438                | 3499             | 2775                  | 0004770        | 1089                                      | 14892                               |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
| 129                        | STO          | 1300               | 0418                | 3498             | 2778                  | 0004615        | 1136                                      | 14902                               |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
|                            | STO          | 1400               | 0403                | 3498             | 2779                  | 0004513        | 1181                                      | 14915                               |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
| 129                        | STO          | 1500               | 0373                | 3498             | 2780                  | 0004472        | 1226                                      | 14931                               |                       |                         |                                 |                      |                                 |                                 |                                   |                           |
|                            | OBS          | T1608              | 0388                | 34983            | 2781                  |                |   |                                     |                       |                         |                                 |                      |                                 |                                 |                                   |                           |



TABLE IX.—Continued

[illegible][illegible]



TABLE IX.—Continued

| REFERENCE<br>CTRY<br>CODE  | SHIP<br>ID. NO. | SHIP<br>CODE | LATITUDE<br>° '"/10  | LONGITUDE<br>° '"/10   | MARS<br>SQUARE | STATION TIME<br>(GMT) | YEAR                           | ORIGINATOR'S                        |                   | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPLE   | WAVE<br>OBSERVATIONS |                                 |                                 | CLOUD<br>CODES                    | NOCC<br>STATION<br>NUMBER |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
|--|-----------------|--------------|----------------------|------------------------|----------------|-----------------------|--------------------------------|-------------------------------------|-------------------|-----------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|---------------------------|-----|------|------------------------|-----------------|--------------|----------------------|------------------------|--------------|--|-----------------------|-------------------------|-------------|-------------|--|--|--|----|------|-----|-----|-----|---|----|
|  |                 |              |                      |                        |                |                       |                                | CRUISE<br>NO.                       | STATION<br>NUMBER |                       |                                 | DR.                  | HGT                             | PER                             |                                   |                           | SEA |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
| 311265   | OG              |              | 4355 N               | 04056 W                | 149 30         | 05 24 130             | 1965                           | 018                                 | 019               |                       |                                 | 14                   | 27                              | 8                               | 4                                 | X1                        | 6 3 | 0019 |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
| <table><tr><th rowspan="2">WATER<br/>COLOR<br/>CODE</th><th rowspan="2">TRANSP.<br/>DIR.</th><th rowspan="2">WIND<br/>DIR.</th><th rowspan="2">SPEED<br/>OR<br/>FORCE</th><th rowspan="2">BARO-<br/>METER<br/>(mb)</th><th colspan="2">AIR TEMP. °C</th><th rowspan="2">NO.<br/>OBS.<br/>DEPTHS</th><th rowspan="2">SPECIAL<br/>OBSERVATIONS</th></tr><tr><th>DRY<br/>BULB</th><th>WET<br/>BULB</th></tr><tr><td></td><td></td><td></td><td>30</td><td>51.5</td><td>061</td><td>106</td><td>083</td><td>7</td><td>14</td></tr></table> |                 |              |                      |                        |                |                       |                                |                                     |                   |                       |                                 |                      |                                 |                                 |                                   |                           |     |      | WATER<br>COLOR<br>CODE | TRANSP.<br>DIR. | WIND<br>DIR. | SPEED<br>OR<br>FORCE | BARO-<br>METER<br>(mb) | AIR TEMP. °C |  | NO.<br>OBS.<br>DEPTHS | SPECIAL<br>OBSERVATIONS | DRY<br>BULB | WET<br>BULB |  |  |  | 30 | 51.5 | 061 | 106 | 083 | 7 | 14 |
| WATER<br>COLOR<br>CODE   | TRANSP.<br>DIR. | WIND<br>DIR. | SPEED<br>OR<br>FORCE | BARO-<br>METER<br>(mb) | AIR TEMP. °C   |                       | NO.<br>OBS.<br>DEPTHS          | SPECIAL<br>OBSERVATIONS             |                   |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
|  |                 |              |                      |                        | DRY<br>BULB    | WET<br>BULB           |                                |                                     |                   |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
|  |                 |              | 30                   | 51.5                   | 061            | 106                   | 083                            | 7                                   | 14                |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
| MESSAGE<br>TIME<br>HR 1/10   | CASST<br>NO.    | CARD<br>TYPE | DEPTH (m)            | T °C                   | S ‰            | SIGMA-T               | SPECIFIC VOLUME<br>ANOMALY-20° | Σ Δ D<br>DYN. M.<br>10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l   | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>2</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH                        |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
| 130  |                 | STD          | 0000                 | 1495                   | 3557           | 2675                  | 0013082                        | 0000                                | 15084             |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
|  |                 | OBS          | 0000                 | 1495                   | 35567          | 2675                  |                                |                                     | 15084             |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
|  |                 | STD          | 0010                 | 1493                   | 3557           | 2675                  | 0013069                        | 0013                                | 15085             |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
|  |                 | STD          | 0020                 | 1492                   | 3557           | 2676                  | 0013052                        | 0026                                | 15087             |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
| 130  |                 | OBS          | 0024                 | 1491                   | 35570          | 2676                  |                                |                                     | 15087             |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
|  |                 | STD          | 0030                 | 1492                   | 3557           | 2676                  | 0013082                        | 0039                                | 15088             |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
| 130  |                 | OBS          | 0046                 | 1493                   | 35572          | 2675                  |                                |                                     | 15091             |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
|  |                 | STD          | 0050                 | 1493                   | 3557           | 2675                  | 0013149                        | 0065                                | 15092             |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
| 130  |                 | OBS          | 0059                 | 1492                   | 35576          | 2676                  |                                |                                     | 15095             |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
|  |                 | STD          | 0075                 | 1491                   | 3557           | 2676                  | 0013199                        | 0098                                | 15095             |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
| 130  |                 | OBS          | 0092                 | 1487                   | 35556          | 2675                  |                                |                                     | 15097             |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
|  |                 | STD          | 0100                 | 1462                   | 3553           | 2679                  | 0012967                        | 0131                                | 15090             |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
|  |                 | STD          | 0125                 | 1398                   | 3587           | 2688                  | 0012163                        | 0162                                | 15072             |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
| 130  |                 | OBS          | 0137                 | 1376                   | 35840          | 2690                  |                                |                                     | 15067             |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
|  |                 | STD          | 0150                 | 1364                   | 3582           | 2691                  | 0011916                        | 0193                                | 15065             |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
| 130  |                 | OBS          | T0182                | 1340                   | 35778          | 2693                  |                                |                                     | 15062             |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
|  |                 | STD          | 0200                 | 1339                   | 3578           | 2693                  | 0011887                        | 0252                                | 15064             |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
|  |                 | STD          | 0250                 | 1327                   | 3577           | 2695                  | 0011854                        | 0311                                | 15068             |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
| 130  |                 | OBS          | 0271                 | 1318                   | 35762          | 2696                  |                                |                                     | 15069             |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
|  |                 | STD          | 0300                 | 1305                   | 3573           | 2697                  | 0011820                        | 0371                                | 15069             |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
| 130  |                 | OBS          | T0360                | 1257                   | 35644          | 2700                  |                                |                                     | 15061             |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
|  |                 | STD          | 0400                 | 1209                   | 3555           | 2702                  | 0011542                        | 0487                                | 15050             |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
| 130  |                 | OBS          | 0452                 | 1132                   | 35434          | 2707                  |                                |                                     | 15031             |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
|  |                 | STD          | 0500                 | 1037                   | 3530           | 2714                  | 0010470                        | 0598                                | 15003             |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
| 130  |                 | OBS          | T0543                | 0956                   | 35215          | 2721                  |                                |                                     | 14980             |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
|  |                 | STD          | 0600                 | 0840                   | 3519           | 2738                  | 0008195                        | 0691                                | 14946             |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
|  |                 | STD          | 0700                 | 0682                   | 3513           | 2757                  | 0006413                        | 0764                                | 14900             |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
| 130  |                 | OBS          | 0726                 | 0650                   | 35120          | 2760                  |                                |                                     | 14892             |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
|  |                 | STD          | 0800                 | 0600                   | 3507           | 2763                  | 0005841                        | 0825                                | 14884             |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
|  |                 | STD          | 0900                 | 0540                   | 3501           | 2766                  | 0005596                        | 0882                                | 14875             |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
| 130  |                 | OBS          | T0912                | 0534                   | 35002          | 2766                  |                                |                                     | 14875             |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
|  |                 | STD          | 1000                 | 0492                   | 3499           | 2770                  | 0005195                        | 0936                                | 14872             |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
|  |                 | STD          | 1100                 | 0453                   | 3498           | 2774                  | 0004869                        | 0987                                | 14873             |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
|  |                 | STD          | 1200                 | 0426                   | 3498           | 2776                  | 0004688                        | 1034                                | 14878             |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
|  |                 | STD          | 1300                 | 0408                   | 3497           | 2777                  | 0004625                        | 1081                                | 14887             |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
|  |                 | STD          | 1400                 | 0401                   | 3496           | 2777                  | 0004692                        | 1128                                | 14901             |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |
|  |                 | OBS          | T1427                | 0401                   | 34953          | 2777                  |                                |                                     | 14905             |                       |                                 |                      |                                 |                                 |                                   |                           |     |      |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |      |     |     |     |   |    |

| REFERENCE<br>CTRY<br>CODE  | SHIP<br>ID. NO. | SHIP<br>CODE | LATITUDE<br>° '"/10  | LONGITUDE<br>° '"/10   | MARS<br>DEN<br>SQUARE | STATION TIME<br>(GMT) |                                | YEAR                                | ORIGINATOR'S      |                     | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLE | WAVE<br>OBSERVATIONS            |                                 |                                   | CLOUD<br>CODES | NOCC<br>STATION<br>NUMBER |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
|--|-----------------|--------------|----------------------|------------------------|-----------------------|-----------------------|--------------------------------|-------------------------------------|-------------------|---------------------|---------------------------------|-------------------------------|---------------------------------|---------------------------------|-----------------------------------|----------------|---------------------------|------------------------|-----------------|--------------|----------------------|------------------------|--------------|--|-----------------------|-------------------------|-------------|-------------|--|--|--|----|-----|-----|-----|-----|----|--|
|  |                 |              |                      |                        |                       | MO                    | DAY HR./10                     |                                     | CRUISE<br>NO.     | STATION<br>NUMBER   |                                 |                               | DR.                             | HGT                             | PER                               |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
| 311265   | OG              |              | 4400 N               | 04045 W                | 149                   | 40                    | 05 25 125                      | 1968                                | 018               | 020                 |                                 | 16                            | 76                              | 3                               | 2                                 | 5              | 2                         | 0020                   |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
| <table><tr><th rowspan="2">WATER<br/>COLOR<br/>CODE</th><th rowspan="2">TRANSP.<br/>DIR.</th><th rowspan="2">WIND<br/>DIR.</th><th rowspan="2">SPEED<br/>OR<br/>FORCE</th><th rowspan="2">BARO-<br/>METER<br/>(mm)</th><th colspan="2">AIR TEMP. °C</th><th rowspan="2">NO.<br/>OBS.<br/>DEPTHS</th><th rowspan="2">SPECIAL<br/>OBSERVATIONS</th></tr><tr><th>DRY<br/>BULB</th><th>WET<br/>BULB</th></tr><tr><td></td><td></td><td></td><td>27</td><td>535</td><td>098</td><td>156</td><td>122</td><td>14</td><td></td></tr></table> |                 |              |                      |                        |                       |                       |                                |                                     |                   |                     |                                 |                               |                                 |                                 |                                   |                |                           | WATER<br>COLOR<br>CODE | TRANSP.<br>DIR. | WIND<br>DIR. | SPEED<br>OR<br>FORCE | BARO-<br>METER<br>(mm) | AIR TEMP. °C |  | NO.<br>OBS.<br>DEPTHS | SPECIAL<br>OBSERVATIONS | DRY<br>BULB | WET<br>BULB |  |  |  | 27 | 535 | 098 | 156 | 122 | 14 |  |
| WATER<br>COLOR<br>CODE   | TRANSP.<br>DIR. | WIND<br>DIR. | SPEED<br>OR<br>FORCE | BARO-<br>METER<br>(mm) | AIR TEMP. °C          |                       | NO.<br>OBS.<br>DEPTHS          | SPECIAL<br>OBSERVATIONS             |                   |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
|  |                 |              |                      |                        | DRY<br>BULB           | WET<br>BULB           |                                |                                     |                   |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
|  |                 |              | 27                   | 535                    | 098                   | 156                   | 122                            | 14                                  |                   |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
| MESSAGE<br>TIME<br>HR 1/10   | CASST<br>NO.    | CARD<br>TYPE | DEPTH (m)            | T °C                   | S ‰                   | SIGMA-T               | SPECIFIC VOLUME<br>ANOMALY-20° | Σ Δ D<br>DYN. M.<br>10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l          | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>2</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH             |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
| 125  |                 | STD          | 0000                 | 1462                   | 3554                  | 2680                  | 0012562                        | 0000                                | 15073             |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
|  |                 | OBS          | 0000                 | 1462                   | 35544                 | 2680                  |                                |                                     | 15073             |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
|  |                 | STD          | 0010                 | 1462                   | 3554                  | 2680                  | 0012593                        | 0013                                | 15075             |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
| 125  |                 | STD          | 0020                 | 1462                   | 3555                  | 2680                  | 0012616                        | 0025                                | 15077             |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
|  |                 | OBS          | 0026                 | 1462                   | 35545                 | 2680                  |                                |                                     | 15078             |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
|  |                 | STD          | 0030                 | 1462                   | 3555                  | 2680                  | 0012650                        | 0038                                | 15078             |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
| 125  |                 | STD          | 0050                 | 1463                   | 3555                  | 2680                  | 0012720                        | 0063                                | 15082             |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
|  |                 | OBS          | 0051                 | 1463                   | 35546                 | 2680                  |                                |                                     | 15082             |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
|  |                 | STD          | 0075                 | 1462                   | 3555                  | 2680                  | 0012777                        | 0095                                | 15086             |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
| 125  |                 | OBS          | 0077                 | 1462                   | 35546                 | 2680                  |                                |                                     | 15086             |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
|  |                 | STD          | 0100                 | 1455                   | 3553                  | 2680                  | 0012821                        | 0127                                | 15087             |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
|  |                 | OBS          | 0102                 | 1454                   | 35526                 | 2680                  |                                |                                     | 15087             |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
| 125  |                 | STD          | 0125                 | 1429                   | 3550                  | 2684                  | 0012577                        | 0159                                | 15083             |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
|  |                 | STD          | 0150                 | 1408                   | 3588                  | 2687                  | 0012367                        | 0190                                | 15080             |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
|  |                 | OBS          | 0153                 | 1406                   | 35874                 | 2687                  |                                |                                     | 15080             |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
| 125  |                 | STD          | 0200                 | 1366                   | 3584                  | 2688                  | 0012356                        | 0252                                | 15080             |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
|  |                 | OBS          | 0204                 | 1384                   | 35833                 | 2688                  |                                |                                     | 15080             |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
|  |                 | STD          | 0250                 | 1359                   | 3580                  | 2691                  | 0012245                        | 0313                                | 15079             |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
| 125  |                 | STD          | 0300                 | 1320                   | 3573                  | 2694                  | 0012117                        | 0374                                | 15074             |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
|  |                 | OBS          | 0306                 | 1314                   | 35723                 | 2694                  |                                |                                     | 15073             |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
|  |                 | STD          | 0400                 | 1201                   | 3552                  | 2701                  | 0011610                        | 0493                                | 15047             |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
| 125  |                 | OBS          | T0408                | 1189                   | 35506                 | 2702                  |                                |                                     | 15044             |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
|  |                 | STD          | 0500                 | 1022                   | 3529                  | 2716                  | 0010282                        | 0602                                | 14998             |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
|  |                 | OBS          | 0515                 | 0996                   | 35255                 | 2718                  |                                |                                     | 14990             |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
| 125  |                 | STD          | 0600                 | 0850                   | 3510                  | 2730                  | 0009014                        | 0699                                | 14948             |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
|  |                 | OBS          | T0620                | 0820                   | 35077                 | 2732                  |                                |                                     | 14940             |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
|  |                 | STD          | 0700                 | 0727                   | 3507                  | 2746                  | 0007515                        | 0781                                | 14917             |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
| 125  |                 | STD          | 0800                 | 0623                   | 3505                  | 2758                  | 0006309                        | 0851                                | 14893             |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
|  |                 | OBS          | 0835                 | 0569                   | 35042                 | 2762                  |                                |                                     | 14885             |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
|  |                 | STD          | 0900                 | 0527                   | 3502                  | 2768                  | 0005349                        | 0909                                | 14870             |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
| 125  |                 | STD          | 1000                 | 0447                   | 3499                  | 2775                  | 0004645                        | 0959                                | 14854             |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
|  |                 | OBS          | 1048                 | 0416                   | 34983                 | 2778                  |                                |                                     | 14849             |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
|  |                 | STD          | 1100                 | 0413                   | 3497                  | 2777                  | 0004462                        | 1004                                | 14856             |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
| 125  |                 | STD          | 1200                 | 0407                   | 3496                  | 2777                  | 0004556                        | 1049                                | 14870             |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
|  |                 | STD          | 1300                 | 0401                   | 3494                  | 2776                  | 0004719                        | 1096                                | 14884             |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
|  |                 | STD          | 1400                 | 0395                   | 3494                  | 2777                  | 0004733                        | 1143                                | 14898             |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
| 125  |                 | STD          | 1500                 | 0389                   | 3494                  | 2777                  | 0004743                        | 1190                                | 14913             |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |
|  |                 | OBS          | T1586                | 0384                   | 34939                 | 2778                  |                                |                                     | 14925             |                     |                                 |                               |                                 |                                 |                                   |                |                           |                        |                 |              |                      |                        |              |  |                       |                         |             |             |  |  |  |    |     |     |     |     |    |  |



TABLE IX.—Continued

| REFERENCE<br>CST<br>CODE   | SHIP<br>ID. NO. | SHIP<br>CODE  | LATITUDE<br>1/10 | LONGITUDE<br>1/10 | MARSSEN<br>SQUARE<br>10' 1" MO DAY HR 1/10 | STATION TIME<br>(GMT)  | YEAR                                      | ORIGINATOR'S                          |                   | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>S'PLS    | WAVE<br>OBSERVATIONS |                                 |                                 | WEA-<br>THER<br>CODE              | CLOUD<br>CODES<br>TYPE AMT | TO<br>NOCC<br>STATION<br>NUMBER |
|----------------------------|-----------------|---------------|------------------|-------------------|--|------------------------|---|---------------------------------------|-------------------|-----------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|----------------------------|---------------------------------|
|                            |                 |               |                  |                   |  |                        |   | CAUSE<br>NO.                          | STATION<br>NUMBER |                       |                                 | DIR                  | HGT                             | PER                             | SEA                               |                            |                                 |
| 311265                     | DG              |               | 4400 N           | 04100 W           | 149 41 05 27 170                           | 1968                   | 018 021                                   |                                       |                   | 14                    | 27                              | 7                    | 3                               |                                 | X1                                | 3 6                        | 0021                            |
|                            |                 |               |                  |                   |  |                        |   |                                       |                   |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | WATER         |                  | WIND              |  | BARO-<br>METER<br>(mm) |   | AIR TEMP. °C                          |                   | VIL<br>CODE           |                                 | NO.<br>OBS.<br>DEPTH |                                 | SPECIAL<br>OBSERVATIONS         |                                   |                            |                                 |
|                            |                 | COLOR<br>CODE | TRAN-<br>SMI     | DIR.              | SPEED<br>OF<br>FORCE                       | WET<br>BULB            | DRY<br>BULB                               | WET<br>BULB                           | WET<br>BULB       |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 |               |                  | 27                | 512  | 129                    | 117                                       | 089                                   | 7                 | 14                    |                                 |                      |                                 |                                 |                                   |                            |                                 |
| MESSAGE<br>TIME<br>HR 1/10 | CST<br>NO.      | CARD<br>TYPE  | DEPTH (m)        | T °C              | S ‰  | SIGMA-T                | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> | Σ Δ D<br>DTN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l   | PO <sub>2</sub> -P<br>pg - ml/l | TOTAL-P<br>pg - ml/l | NO <sub>3</sub> -N<br>pg - ml/l | NO <sub>3</sub> -N<br>pg - ml/l | SiO <sub>4</sub> -Si<br>pg - ml/l | pH                         | 1<br>°C                         |
| 170                        |                 | STD           | 0000             | 1504              | 3602                                       | 2677                   | 0012869                                   | 0000                                  | 15088             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | D85           | 0000             | 1504              | 36022                                      | 2677                   |   |                                       | 15088             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 0010             | 1501              | 3602                                       | 2678                   | 0012823                                   | 0013                                  | 15088             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 0020             | 1497              | 3602                                       | 2676                   | 0012775                                   | 0026                                  | 15089             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
| 170                        |                 | D85           | 0024             | 1496              | 36024                                      | 2679                   |   |                                       | 15089             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 0030             | 1484              | 3600                                       | 2680                   | 0012702                                   | 0038                                  | 15086             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
| 170                        |                 | D85           | 0048             | 1453              | 35929                                      | 2681                   |   |                                       | 15078             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 0050             | 1450              | 3592                                       | 2681                   | 0012641                                   | 0064                                  | 15078             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
| 170                        |                 | D85           | 0072             | 1428              | 35878                                      | 2682                   |   |                                       | 15074             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 0075             | 1427              | 3588                                       | 2682                   | 0012556                                   | 0095                                  | 15074             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
| 170                        |                 | D85           | 0096             | 1418              | 35873                                      | 2684                   |   |                                       | 15074             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 0100             | 1417              | 3587                                       | 2684                   | 0012458                                   | 0126                                  | 15074             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 0125             | 1409              | 3586                                       | 2685                   | 0012439                                   | 0158                                  | 15076             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
| 170                        |                 | D85           | 0143             | 1404              | 35859                                      | 2686                   |   |                                       | 15077             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 0150             | 1393              | 3584                                       | 2687                   | 0012354                                   | 0189                                  | 15074             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
| 170                        |                 | D85           | T0191            | 1338              | 35749                                      | 2691                   |   |                                       | 15062             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 0200             | 1332              | 3574                                       | 2692                   | 0012004                                   | 0249                                  | 15061             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 0250             | 1290              | 3568                                       | 2696                   | 0011755                                   | 0309                                  | 15055             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
| 170                        |                 | D85           | 0285             | 1251              | 35618                                      | 2699                   |   |                                       | 15047             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 0300             | 1230              | 3558                                       | 2700                   | 0011464                                   | 0367                                  | 15041             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
| 170                        |                 | D85           | T0375            | 1117              | 35403                                      | 2708                   |   |                                       | 15012             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 0400             | 1072              | 3535                                       | 2712                   | 0010493                                   | 0477                                  | 15000             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
| 170                        |                 | D85           | 0469             | 0956              | 35221                                      | 2722                   |   |                                       | 14968             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 0500             | 0908              | 3517                                       | 2726                   | 0009241                                   | 0575                                  | 14954             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
| 170                        |                 | D85           | T0560            | 0823              | 35084                                      | 2732                   |   |                                       | 14931             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 0600             | 0770              | 3508                                       | 2740                   | 0007919                                   | 0661                                  | 14917             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 0700             | 0656              | 3505                                       | 2754                   | 0006629                                   | 0734                                  | 14889             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
| 170                        |                 | D85           | 0742             | 0616              | 35039                                      | 2758                   |   |                                       | 14880             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 0800             | 0571              | 3501                                       | 2762                   | 0005886                                   | 0797                                  | 14871             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 0900             | 0505              | 3498                                       | 2767                   | 0005354                                   | 0853                                  | 14861             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
| 170                        |                 | D85           | T0926            | 0450              | 34972                                      | 2769                   |   |                                       | 14859             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 1000             | 0477              | 3497                                       | 2770                   | 0005162                                   | 0905                                  | 14865             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 1100             | 0458              | 3497                                       | 2772                   | 0005054                                   | 0956                                  | 14875             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 1200             | 0440              | 3497                                       | 2774                   | 0004934                                   | 1006                                  | 14884             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 1300             | 0422              | 3496                                       | 2776                   | 0004809                                   | 1055                                  | 14893             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
| 170                        |                 | D85           | T1391            | 0405              | 34962                                      | 2777                   |   |                                       | 14901             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |

| REFERENCE<br>CST<br>CODE   | SHIP<br>ID. NO. | SHIP<br>CODE  | LATITUDE<br>1/10 | LONGITUDE<br>1/10 | MARSSEN<br>SQUARE<br>10' 1" MO DAY HR 1/10 | STATION TIME<br>(GMT)  | YEAR                                      | ORIGINATOR'S                          |                   | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>S'PLS    | WAVE<br>OBSERVATIONS |                                 |                                 | WEA-<br>THER<br>CODE              | CLOUD<br>CODES<br>TYPE AMT | TO<br>NOCC<br>STATION<br>NUMBER |
|----------------------------|-----------------|---------------|------------------|-------------------|--|------------------------|---|---------------------------------------|-------------------|-----------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|----------------------------|---------------------------------|
|                            |                 |               |                  |                   |  |                        |   | CAUSE<br>NO.                          | STATION<br>NUMBER |                       |                                 | DIR                  | HGT                             | PER                             | SEA                               |                            |                                 |
| 311265                     | DG              |               | 4404 N           | 04103 W           | 149 41 05 28 104                           | 1968                   | 018 022                                   |                                       |                   | 14                    | 35                              | 3                    | 3                               |                                 | X2                                | 6 8                        | 0022                            |
|                            |                 |               |                  |                   |  |                        |   |                                       |                   |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | WATER         |                  | WIND              |  | BARO-<br>METER<br>(mm) |   | AIR TEMP. °C                          |                   | VIL<br>CODE           |                                 | NO.<br>OBS.<br>DEPTH |                                 | SPECIAL<br>OBSERVATIONS         |                                   |                            |                                 |
|                            |                 | COLOR<br>CODE | TRAN-<br>SMI     | DIR.              | SPEED<br>OF<br>FORCE                       | WET<br>BULB            | DRY<br>BULB                               | WET<br>BULB                           | WET<br>BULB       |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 |               |                  | 25                | 505  | 500                    | 111                                       | 083                                   | 7                 | 14                    |                                 |                      |                                 |                                 |                                   |                            |                                 |
| MESSAGE<br>TIME<br>HR 1/10 | CST<br>NO.      | CARD<br>TYPE  | DEPTH (m)        | T °C              | S ‰  | SIGMA-T                | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> | Σ Δ D<br>DTN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l   | PO <sub>2</sub> -P<br>pg - ml/l | TOTAL-P<br>pg - ml/l | NO <sub>3</sub> -N<br>pg - ml/l | NO <sub>3</sub> -N<br>pg - ml/l | SiO <sub>4</sub> -Si<br>pg - ml/l | pH                         | 1<br>°C                         |
| 102                        |                 | STD           | 0000             | 1491              | 3602                                       | 2679                   | 0012640                                   | 0000                                  | 15084             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | D85           | 0000             | 1491              | 36016                                      | 2675                   |   |                                       | 15084             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 0010             | 1490              | 3601                                       | 2679                   | 0012688                                   | 0013                                  | 15085             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 0020             | 1489              | 3601                                       | 2679                   | 0012744                                   | 0025                                  | 15086             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
| 102                        |                 | D85           | 0022             | 1489              | 36004                                      | 2679                   |   |                                       | 15086             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 0030             | 1475              | 3597                                       | 2679                   | 0012733                                   | 0038                                  | 15083             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
| 102                        |                 | D85           | 0046             | 1449              | 35908                                      | 2680                   |   |                                       | 15076             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 0050             | 1442              | 3589                                       | 2680                   | 0012695                                   | 0064                                  | 15075             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
| 102                        |                 | D85           | 0069             | 1418              | 35857                                      | 2683                   |   |                                       | 15070             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 0075             | 1415              | 3586                                       | 2684                   | 0012436                                   | 0095                                  | 15070             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
| 102                        |                 | D85           | 0092             | 1408              | 35866                                      | 2686                   |   |                                       | 15070             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 0100             | 1406              | 3586                                       | 2686                   | 0012326                                   | 0126                                  | 15071             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 0125             | 1395              | 3585                                       | 2686                   | 0012330                                   | 0157                                  | 15072             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
| 102                        |                 | D85           | 0137             | 1394              | 35843                                      | 2687                   |   |                                       | 15073             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 0150             | 1388              | 3584                                       | 2688                   | 0012252                                   | 0187                                  | 15073             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
| 102                        |                 | D85           | T0184            | 1370              | 35822                                      | 2690                   |   |                                       | 15072             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 0200             | 1364              | 3581                                       | 2691                   | 0012131                                   | 0248                                  | 15073             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 0250             | 1335              | 3577                                       | 2694                   | 0011984                                   | 0309                                  | 15071             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
| 102                        |                 | D85           | 0274             | 1316              |  |                        |   |                                       |                   |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 0300             | 1294              | 3570                                       | 2696                   | 0011823                                   | 0368                                  | 15065             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
| 102                        |                 | D85           | T0369            | 1212              | 35565                                      | 2702                   |   |                                       | 15046             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 0400             | 1160              | 3548                                       | 2706                   | 0011135                                   | 0483                                  | 15033             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
| 102                        |                 | D85           | 0455             | 1058              | 35334                                      | 2713                   |   |                                       | 15004             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 0500             | 0957              | 3522                                       | 2722                   | 0009684                                   | 0587                                  | 14973             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
| 102                        |                 | D85           | T0544            | 0871              | 35127                                      | 2728                   |   |                                       | 14947             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 0600             | 0797              | 3509                                       | 2737                   | 0008256                                   | 0677                                  | 14928             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 0700             | 0680              | 3504                                       | 2750                   | 0007047                                   | 0753                                  | 14899             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
| 102                        |                 | D85           | 0725             | 0653              | 35032                                      | 2753                   |   |                                       | 14892             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 0800             | 0579              | 3500                                       | 2760                   | 0006039                                   | 0819                                  | 14874             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 0900             | 0498              | 3497                                       | 2767                   | 0005366                                   | 0876                                  | 14858             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
| 102                        |                 | D85           | T0909            | 0452              | 34962                                      | 2768                   |   |                                       | 14857             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 1000             | 0475              | 3496                                       | 2769                   | 0005214                                   | 0929                                  | 14865             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 1100             | 0457              | 3496                                       | 2771                   | 0005093                                   | 0980                                  | 14874             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 1200             | 0439              | 3496                                       | 2773                   | 0004959                                   | 1031                                  | 14883             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
|                            |                 | STD           | 1300             | 0421              | 3496                                       | 2775                   | 0004827                                   | 1079                                  | 14892             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |
| 102                        |                 | D85           | T1370            | 0408              | 34960                                      | 2777                   |   |                                       | 14899             |                       |                                 |                      |                                 |                                 |                                   |                            |                                 |



TABLE X.—Observed and interpolated oceanographic data from stations taken by USCGC CASTLE ROCK at Ocean Station DELTA, 31 May–19 June 1968, prepared from NODC listing No. 31–1269 CK.

| REFERENCE<br>CTRY<br>CODE  | ID.<br>NO.        | SHIP<br>CODE | LATITUDE<br>+ 1/10 | LONGITUDE<br>+ 1/10 | MO<br>10°    | DAY<br>1° | STATION TIME<br>GMT<br>MO DAY HR 1/10     | YEAR                                  | ORIGINATOR'S      |                     | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLE | WAVE<br>OBSERVATIONS            |                                 |                                   | WEA-<br>THER<br>CODE    | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |      |
|----------------------------|-------------------|--------------|--------------------|---------------------|--------------|-----------|---|---------------------------------------|-------------------|---------------------|---------------------------------|-------------------------------|---------------------------------|---------------------------------|-----------------------------------|-------------------------|----------------|---------------------------|------|
|                            |                   |              |                    |                     |              |           |   |                                       | CRUISE<br>NO.     | STATION<br>NUMBER   |                                 |                               | DIR.                            | HGT.                            | PER.                              |                         |                |                           |      |
|                            |                   |              |                    |                     |              |           |   |                                       |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           | 10°  |
| 311269                     |                   | CK           | 4349 N             | 04112 W             | 1968         | 05        | 31  | 139                                   | 1968              | 019                 | 001                             | 4645                          | 17                              | 25                              |                                   | 4                       | 72             | 8 8                       | 0001 |
|                            |                   |              |                    |                     |              |           |   |                                       |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            |                   |              |                    | WATER               |              | WIND      |   | BARO-<br>METER                        |                   | AIR TEMP. °C        |                                 | WET<br>BULB                   |                                 | VIS.<br>CODE                    |                                   | SPECIAL<br>OBSERVATIONS |                |                           |      |
|                            |                   |              |                    | COLOR<br>CODE       | TRANS.<br>IN | DIR.      | SPEED<br>OR<br>FORCE                      | DRY<br>BULB                           | WET<br>BULB       | DRY<br>BULB         | WET<br>BULB                     | DRY<br>BULB                   | WET<br>BULB                     | DRY<br>BULB                     | WET<br>BULB                       |                         |                |                           |      |
|                            |                   |              |                    | 25                  | 518          | 268       | 156                                       | 139                                   | 8                 | 14                  |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| MESSAGE<br>TIME<br>HR 1/10 | CARD<br>NO.       | CARD<br>TYPE | DEPTH (m)          | T °C                | S ‰          | SIGMA-T   | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> | Σ Δ σ<br>DTN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - μl/l | TOTAL-P<br>μg - μl/l          | NO <sub>3</sub> -N<br>μg - μl/l | NO <sub>3</sub> -N<br>μg - μl/l | SiO <sub>2</sub> -Si<br>μg - μl/l | pH                      | REMARKS        |                           |      |
| 139                        | ST0               | 0000         | 1434               | 3591                | 2683         | 0012272   | 0000                                      | 15064                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            | 085               | 0000         | 1434               | 35905               | 2683         |           |   | 15064                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 139                        | ST0               | 0010         | 1431               | 3591                | 2684         | 0012240   | 0012                                      | 15065                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            | ST0               | 0020         | 1429               | 3591                | 2684         | 0012229   | 0024                                      | 15066                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 139                        | 085               | 0026         | 1428               | 35905               | 2684         |           |   | 15066                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            | ST0               | 0030         | 1428               | 3590                | 2684         | 0012240   | 0037                                      | 15067                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 139                        | ST0               | 0050         | 1426               | 3590                | 2684         | 0012291   | 0061                                      | 15070                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            | 085               | 0053         | 1426               | 35900               | 2684         |           |   | 15070                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 139                        | ST0               | 0075         | 1425               | 3590                | 2685         | 0012330   | 0092                                      | 15073                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            | 085               | 0080         | 1425               | 35904               | 2685         |           |   | 15074                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 139                        | ST0               | 0100         | 1424               | 3590                | 2685         | 0012376   | 0123                                      | 15077                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            | 085               | 0106         | 1424               | 35904               | 2685         |           |   | 15078                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 139                        | ST0               | 0125         | 1388               | 3585                | 2689         | 0012107   | 0154                                      | 15069                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            | ST0               | 0150         | 1354               | 3579                | 2691         | 0011935   | 0184                                      | 15061                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 139                        | 085               | 0159         | 1346               | 35778               | 2692         |           |   | 15060                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            | ST0               | 0200         | 1341               | 3575                | 2691         | 0012110   | 0244                                      | 15064                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 139                        | 085               | T0213        | 1336               | 35744               | 2691         |           |   | 15065                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            | ST0               | 0250         | 1309               | 3570                | 2693         | 0011981   | 0304                                      | 15061                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 139                        | ST0               | 0300         | 1259               | 3563                | 2698         | 0011654   | 0363                                      | 15052                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            | 085               | 0318         | 1237               | 35593               | 2700         |           |   | 15047                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 139                        | ST0               | 0400         | 1109               | 3540                | 2709         | 0010788   | 0475                                      | 15014                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            | 085               | T0425        | 1067               | 35344               | 2712         |           |   | 15002                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 139                        | ST0               | 0500         | 0923               | 3518                | 2724         | 0009413   | 0576                                      | 14960                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            | 085               | 0529         | 0874               | 35137               | 2729         |           |   | 14946                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 139                        | ST0               | 0600         | 0773               | 3506                | 2738         | 0008112   | 0664                                      | 14918                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            | 085               | T0634        | 0730               | 35039               | 2743         |           |   | 14907                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 139                        | ST0               | 0700         | 0666               | 3504                | 2752         | 0006823   | 0739                                      | 14893                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            | ST0               | 0800         | 0585               | 3505                | 2763         | 0005789   | 0802                                      | 14877                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 139                        | 085               | 0844         | 0555               | 35052               | 2767         |           |   | 14873                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            | ST0               | 0900         | 0529               | 3503                | 2769         | 0005302   | 0857                                      | 14871                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 139                        | ST0               | 1000         | 0487               | 3500                | 2771         | 0005086   | 0909                                      | 14870                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            | 085               | T1091        | 0455               | 34974               | 2773         |           |   | 14872                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 139                        | ST0               | 1100         | 0452               | 3497                | 2773         | 0004930   | 0959                                      | 14872                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            | ST0               | 1200         | 0423               | 3497                | 2776         | 0004708   | 1007                                      | 14877                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 139                        | ST0               | 1300         | 0400               | 3496                | 2778         | 0004552   | 1054                                      | 14884                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            | ST0               | 1400         | 0384               | 3495                | 2779         | 0004487   | 1099                                      | 14894                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 139                        | ST0               | 1500         | 0374               | 3495                | 2779         | 0004488   | 1144                                      | 14906                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            | 085               | T1687        | 0372               | 34936               | 2779         |           |   | 14937                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            |                   |              |                    |                     |              |           |   |                                       |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| REFERENCE<br>CTRY<br>CODE  | ID.<br>NO.        | SHIP<br>CODE | LATITUDE<br>+ 1/10 | LONGITUDE<br>+ 1/10 | MO<br>10°    | DAY<br>1° | STATION TIME<br>GMT<br>MO DAY HR 1/10     | YEAR                                  | ORIGINATOR'S      |                     | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLE | WAVE<br>OBSERVATIONS            |                                 |                                   | WEA-<br>THER<br>CODE    | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |      |
| CRUISE<br>NO.              | STATION<br>NUMBER | DIR.         | HGT.               | PER.                |              |           |   |                                       |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 10°                        | 1°                | MO           |                    |                     |              |           |   |                                       |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 311269                     |                   | CK           | 4408 N             | 04053 W             | 1968         | 06        | 01  | 129                                   | 1968              | 019                 | 002                             | 4764                          | 18                              | 19                              |                                   | 4                       | X6             | 7 8                       | 0002 |
|                            |                   |              |                    |                     |              |           |   |                                       |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            |                   |              |                    | WATER               |              | WIND      |   | BARO-<br>METER                        |                   | AIR TEMP. °C        |                                 | WET<br>BULB                   |                                 | VIS.<br>CODE                    |                                   | SPECIAL<br>OBSERVATIONS |                |                           |      |
|                            |                   |              |                    | COLOR<br>CODE       | TRANS.<br>IN | DIR.      | SPEED<br>OR<br>FORCE                      | DRY<br>BULB                           | WET<br>BULB       | DRY<br>BULB         | WET<br>BULB                     | DRY<br>BULB                   | WET<br>BULB                     | DRY<br>BULB                     | WET<br>BULB                       |                         |                |                           |      |
|                            |                   |              |                    | 17                  | 528          | 179       | 150                                       | 144                                   | 7                 | 14                  |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| MESSAGE<br>TIME<br>HR 1/10 | CARD<br>NO.       | CARD<br>TYPE | DEPTH (m)          | T °C                | S ‰          | SIGMA-T   | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> | Σ Δ σ<br>DTN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - μl/l | TOTAL-P<br>μg - μl/l          | NO <sub>3</sub> -N<br>μg - μl/l | NO <sub>3</sub> -N<br>μg - μl/l | SiO <sub>2</sub> -Si<br>μg - μl/l | pH                      | REMARKS        |                           |      |
| 129                        | ST0               | 0000         | 1530               | 3611                | 2678         | 0012748   | 0000                                      | 15097                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            | 085               | 0000         | 1530               | 36114               | 2678         |           |   | 15097                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 129                        | ST0               | 0010         | 1530               | 3612                | 2678         | 0012781   | 0013                                      | 15099                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            | ST0               | 0020         | 1531               | 3612                | 2678         | 0012811   | 0026                                      | 15101                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 129                        | 085               | 0028         | 1531               | 36117               | 2678         |           |   | 15102                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            | ST0               | 0030         | 1531               | 3612                | 2678         | 0012849   | 0038                                      | 15102                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 129                        | ST0               | 0050         | 1526               | 3610                | 2678         | 0012907   | 0064                                      | 15104                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            | 085               | 0055         | 1524               | 36098               | 2678         |           |   | 15104                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 129                        | ST0               | 0075         | 1515               | 3608                | 2679         | 0012911   | 0096                                      | 15104                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            | 085               | 0083         | 1511               | 36075               | 2679         |           |   | 15104                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 129                        | ST0               | 0100         | 1502               | 3605                | 2679         | 0012931   | 0129                                      | 15104                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            | 085               | 0111         | 1494               | 36038               | 2680         |           |   | 15103                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 129                        | ST0               | 0125         | 1479               | 3602                | 2682         | 0012741   | 0161                                      | 15100                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            | ST0               | 0150         | 1448               | 3596                | 2684         | 0012607   | 0192                                      | 15094                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 129                        | 085               | 0167         | 1423               | 35910               | 2686         |           |   | 15088                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            | ST0               | 0200         | 1358               | 3574                | 2686         | 0012522   | 0255                                      | 15070                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 129                        | 085               | T0221        | 1322               | 35652               | 2687         |           |   | 15060                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            | ST0               | 0250         | 1296               | 3561                | 2689         | 0012384   | 0318                                      | 15056                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 129                        | ST0               | 0300         | 1249               | 3554                | 2693         | 0012119   | 0379                                      | 15047                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            | 085               | 0339         | 1211               | 35498               | 2697         |           |   | 15040                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 129                        | ST0               | 0400         | 1173               | 3547                | 2702         | 0011450   | 0497                                      | 15037                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            | 085               | T0460        | 1086               | 35379               | 2711         |           |   | 15015                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 129                        | ST0               | 0500         | 0965               | 3522                | 2720         | 0009819   | 0603                                      | 14976                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            | 085               | 0575         | 0782               | 35027               | 2734         |           |   | 14917                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 129                        | ST0               | 0600         | 0741               | 3501                | 2735         | 0008000   | 0692                                      | 14905                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            | 085               | T0691        | 0610               | 34963               | 2753         |           |   | 14868                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 129                        | ST0               | 0700         | 0600               | 3496                | 2754         | 0006515   | 0765                                      | 14866                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            | ST0               | 0800         | 0504               | 3492                | 2763         | 0005668   | 0826                                      | 14843                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 129                        | ST0               | 0900         | 0435               | 3490                | 2769         | 0005057   | 0879                                      | 14831                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            | 085               | 0935         | 0417               | 34890               | 2770         |           |   | 14829                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 129                        | ST0               | 1000         | 0408               | 3489                | 2771         | 0004897   | 0929                                      | 14836                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            | ST0               | 1100         | 0395               | 3489                | 2773         | 0004829   | 0978                                      | 14847                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 129                        | 085               | T1179        | 0387               | 34888               | 2773         |           |   | 14857                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            | ST0               | 1200         | 0387               | 3489                | 2773         | 0004814   | 1026                                      | 14860                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 129                        | ST0               | 1300         | 0384               | 3489                | 2774         | 0004872   | 1074                                      | 14876                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            | ST0               | 1400         | 0382               | 3490                | 2775         | 0004856   | 1123                                      | 14892                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 129                        | ST0               | 1500         | 0380               | 3490                | 2775         | 0004912   | 1172                                      | 14908                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
|                            | ST0               | 1750         | 0374               | 3493                | 2778         | 0004826   | 1293                                      | 14948                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |
| 129                        | 085               | T1786        | 0373               | 34932               | 2778         |           |   | 14954                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                         |                |                           |      |



TABLE X.—Continued

| REFERENCE                    |             | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | WARS<br>SQUARE | STATION TIME<br>(GMT) |                                  |                           | YEAR              | ORIGINATOR'S        |                                 | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPLE   | WAVE<br>OBSERVATIONS            |                                   |                         | WEA-<br>THER<br>CODE | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |     |     |      |      |     |
|------------------------------|-------------|--------------|--------------------|---------------------|----------------|-----------------------|----------------------------------|---------------------------|-------------------|---------------------|---------------------------------|-----------------------|---------------------------------|---------------------------------|-----------------------------------|-------------------------|----------------------|----------------|---------------------------|-----|-----|------|------|-----|
| CRUISE<br>CODE               | ID.<br>NO.  |              |                    |                     |                | 10°                   | 1°                               | MO                        |                   | DAY                 | HR 1/10                         |                       |                                 | CRUISE<br>NO.                   | STATION<br>NUMBER                 | DIR                     |                      |                |                           | HGT | PER | SEA  | TYPE | AUT |
| 311269                       | CK          |              |                    |                     |                | 4353 N                | 04107 W                          | 149                       |                   | 31                  | 06                              |                       |                                 | 02                              | 153                               | 1968                    |                      |                |                           | 019 | 003 | 4663 | 15   | 19  |
|                              |             |              |                    | WATER               |                | WIND                  |                                  | BARO-<br>METER            |                   | AIR TEMP. °C        |                                 | VIS                   |                                 | NO. OBS.<br>DEPTHS              |                                   | SPECIAL<br>OBSERVATIONS |                      |                |                           |     |     |      |      |     |
|                              |             |              |                    | COLOR<br>CODE       | TRANS.<br>m    | DIR.                  | SPED<br>OR<br>FORCE              | DRY<br>BULB               |                   | WET<br>BULB         |                                 | VIS<br>CODE           |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |
|                              |             |              |                    | 19                  | 518            | 140                   | 156                              | 150                       | 6                 | 14                  |                                 |                       |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |
| MESSENGER<br>TIME<br>HR 1/10 | CAST<br>NO. | CARD<br>TYPE | DEPTH (m)          | T °C                | S ‰            | SIGMA-T               | SPECIFIC VOLUME<br>AND MALT-100° | Σ Δ D<br>DTN, M.<br>± 10° | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l  | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>2</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH                      | S<br>C               |                |                           |     |     |      |      |     |
| 153                          | STD         | 0000         | 1451               | 3588                | 2677           |                       | 0012840                          | 0000                      | 15069             |                     |                                 |                       |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |
|                              | D85         | 0000         | 1451               | 35875               | 2677           |                       |                                  |                           | 15069             |                     |                                 |                       |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |
|                              | STD         | 0010         | 1448               | 3589                | 2679           |                       | 0012698                          | 0013                      | 15070             |                     |                                 |                       |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |
| 153                          | STD         | 0020         | 1447               | 3590                | 2680           |                       | 0012635                          | 0025                      | 15071             |                     |                                 |                       |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |
|                              | D85         | 0024         | 1446               | 35902               | 2680           |                       |                                  |                           | 15072             |                     |                                 |                       |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |
|                              | STD         | 0030         | 1446               | 3591                | 2681           |                       | 0012571                          | 0038                      | 15073             |                     |                                 |                       |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |
| 153                          | D85         | 0047         | 1445               | 35914               | 2681           |                       |                                  |                           | 15075             |                     |                                 |                       |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |
|                              | STD         | 0050         | 1444               | 3591                | 2682           |                       | 0012561                          | 0063                      | 15076             |                     |                                 |                       |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |
|                              | D85         | 0072         | 1439               | 35916               | 2683           |                       |                                  |                           | 15078             |                     |                                 |                       |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |
| 153                          | STD         | 0075         | 1439               | 3592                | 2683           |                       | 0012518                          | 0095                      | 15078             |                     |                                 |                       |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |
|                              | D85         | 0095         | 1435               | 35912               | 2683           |                       |                                  |                           | 15080             |                     |                                 |                       |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |
|                              | STD         | 0100         | 1434               | 3591                | 2683           |                       | 0012533                          | 0126                      | 15080             |                     |                                 |                       |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |
| 153                          | STD         | 0125         | 1429               | 3590                | 2684           |                       | 0012561                          | 0157                      | 15083             |                     |                                 |                       |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |
|                              | D85         | 0144         | 1425               | 35896               | 2684           |                       |                                  |                           | 15085             |                     |                                 |                       |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |
|                              | STD         | 0150         | 1412               | 3588                | 2686           |                       | 0012449                          | 0188                      | 15081             |                     |                                 |                       |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |
| 153                          | D85         | 0192         | 1340               | 35778               | 2693           |                       |                                  |                           | 15063             |                     |                                 |                       |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |
|                              | STD         | 0200         | 1337               | 3577                | 2693           |                       | 0011884                          | 0249                      | 15063             |                     |                                 |                       |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |
|                              | STD         | 0250         | 1309               | 3573                | 2696           |                       | 0011762                          | 0308                      | 15062             |                     |                                 |                       |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |
| 153                          | D85         | 0285         | 1277               | 35680               | 2698           |                       |                                  |                           | 15056             |                     |                                 |                       |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |
|                              | STD         | 0300         | 1255               | 3564                | 2700           |                       | 0011504                          | 0367                      | 15051             |                     |                                 |                       |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |
|                              | D85         | T0378        | 1140               | 35450               | 2707           |                       |                                  |                           | 15022             |                     |                                 |                       |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |
| 153                          | STD         | 0400         | 1110               | 3540                | 2709           |                       | 0010806                          | 0478                      | 15016             |                     |                                 |                       |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |
|                              | D85         | 0470         | 0939               | 35265               | 2718           |                       |                                  |                           | 14984             |                     |                                 |                       |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |
|                              | STD         | 0500         | 0934               | 3520                | 2724           |                       | 0009448                          | 0579                      | 14964             |                     |                                 |                       |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |
| 153                          | D85         | T0559        | 0822               | 35103               | 2734           |                       |                                  |                           | 14931             |                     |                                 |                       |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |
|                              | STD         | 0600         | 0764               | 3509                | 2742           |                       | 0007755                          | 0665                      | 14915             |                     |                                 |                       |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |
|                              | STD         | 0700         | 0646               | 3505                | 2755           |                       | 0006488                          | 0737                      | 14885             |                     |                                 |                       |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |
| 153                          | D85         | 0746         | 0603               | 35039               | 2760           |                       |                                  |                           | 14876             |                     |                                 |                       |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |
|                              | STD         | 0800         | 0571               | 3503                | 2763           |                       | 0005739                          | 0798                      | 14871             |                     |                                 |                       |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |
|                              | STD         | 0900         | 0520               | 3501                | 2768           |                       | 0005330                          | 0853                      | 14867             |                     |                                 |                       |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |
| 153                          | D85         | T0950        | 0497               | 35004               | 2770           |                       |                                  |                           | 14866             |                     |                                 |                       |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |
|                              | STD         | 1000         | 0477               | 3500                | 2772           |                       | 0004955                          | 0905                      | 14866             |                     |                                 |                       |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |
|                              | STD         | 1100         | 0443               | 3498                | 2775           |                       | 0004770                          | 0953                      | 14868             |                     |                                 |                       |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |
| 153                          | STD         | 1200         | 0417               | 3497                | 2777           |                       | 0004609                          | 1000                      | 14874             |                     |                                 |                       |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |
|                              | STD         | 1300         | 0401               | 3496                | 2777           |                       | 0004572                          | 1046                      | 14884             |                     |                                 |                       |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |
|                              | STD         | 1400         | 0393               | 3496                | 2778           |                       | 0004559                          | 1092                      | 14898             |                     |                                 |                       |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |
| 153                          | D85         | T1457        | 0393               | 34954               | 2778           |                       |                                  |                           | 14907             |                     |                                 |                       |                                 |                                 |                                   |                         |                      |                |                           |     |     |      |      |     |

| REFERENCE                    |             | SHIP<br>CODE  | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | WARS<br>SQUARE      | STATION TIME<br>(GMT) |                                  |                           | YEAR              | ORIGINATOR'S        |                                 | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPLE   | WAVE<br>OBSERVATIONS            |                                   |     |        | WEA-<br>THER<br>CODE | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |
|------------------------------|-------------|---------------|--------------------|---------------------|---------------------|-----------------------|----------------------------------|---------------------------|-------------------|---------------------|---------------------------------|-----------------------|---------------------------------|---------------------------------|-----------------------------------|-----|--------|----------------------|----------------|---------------------------|
| CRUISE<br>CODE               | ID.<br>NO.  |               |                    |                     |                     | 10°                   | 1°                               | MO DAY HR 1/10            |                   | CRUISE<br>NO.       | STATION<br>NUMBER               |                       |                                 | DIR                             | HGT                               | PER | SEA    |                      |                |                           |
| 311269                       | CK          | 4402 N        | 04051 W            | 149 40              | 06 03               | 128 1968              | 019                              | 004                       |                   | 4846                | 16                              | 19                    |                                 |                                 |                                   | 3   | X4     | X 19                 | 0004           |                           |
|                              |             | WATER         |                    | WIND                |                     | BARO-<br>METER        |                                  | AIR TEMP. °C              |                   | VIS<br>CODE         | NO. OBS.<br>DEPTHS              |                       | SPECIAL<br>OBSERVATIONS         |                                 |                                   |     |        |                      |                |                           |
|                              |             | COLOR<br>CODE | TRANS.<br>m        | DIR.                | SPED<br>OR<br>FORCE | DRY<br>BULB           | WET<br>BULB                      |                           |                   |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
|                              |             |               |                    | 22                  | 510                 | 152                   | 156                              | 156                       | 6                 | 14                  |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
| MESSENGER<br>TIME<br>HR 1/10 | CAST<br>NO. | CARD<br>TYPE  | DEPTH (m)          | T °C                | S ‰                 | SIGMA-T               | SPECIFIC VOLUME<br>AND MALT-100° | Σ Δ D<br>DTN, M.<br>± 10° | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l  | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>2</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH  | S<br>C |                      |                |                           |
| 128                          | STD         | 0000          | 1532               | 3603                | 2671                |                       | 0013426                          | 0000                      | 15097             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
|                              | D85         | 0000          | 1532               | 36027               | 2671                |                       |                                  |                           | 15097             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
|                              | STD         | 0010          | 1525               | 3604                | 2673                |                       | 0013213                          | 0013                      | 15096             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
| 128                          | STD         | 0020          | 1519               | 3605                | 2676                |                       | 0013044                          | 0026                      | 15096             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
|                              | D85         | 0026          | 1515               | 36055               | 2677                |                       |                                  |                           | 15096             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
|                              | STD         | 0030          | 1513               | 3605                | 2677                |                       | 0012933                          | 0039                      | 15096             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
| 128                          | STD         | 0050          | 1500               | 3603                | 2679                |                       | 0012852                          | 0065                      | 15095             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
|                              | D85         | 0052          | 1499               | 36032               | 2679                |                       |                                  |                           | 15095             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
|                              | STD         | 0075          | 1484               | 3601                | 2680                |                       | 0012803                          | 0097                      | 15093             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
| 128                          | D85         | 0079          | 1482               | 36000               | 2680                |                       |                                  |                           | 15093             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
|                              | STD         | 0100          | 1472               | 3598                | 2681                |                       | 0012810                          | 0129                      | 15093             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
|                              | D85         | 0104          | 1468               | 35968               | 2681                |                       |                                  |                           | 15093             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
| 128                          | STD         | 0125          | 1420               | 3588                | 2684                |                       | 0012539                          | 0161                      | 15080             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
|                              | STD         | 0150          | 1376               | 3580                | 2687                |                       | 0012303                          | 0192                      | 15068             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
|                              | D85         | 0158          | 1365               | 35784               | 2688                |                       |                                  |                           | 15066             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
| 128                          | STD         | 0200          | 1340               | 3575                | 2691                |                       | 0012090                          | 0253                      | 15064             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
|                              | D85         | T0210         | 1331               | 35740               | 2692                |                       |                                  |                           | 15063             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
|                              | STD         | 0250          | 1263               | 3560                | 2695                |                       | 0011817                          | 0313                      | 15045             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
| 128                          | STD         | 0300          | 1178               | 3545                | 2700                |                       | 0011440                          | 0371                      | 15022             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
|                              | D85         | 0316          | 1151               | 35409               | 2702                |                       |                                  |                           | 15015             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
|                              | STD         | 0400          | 1006               | 3522                | 2713                |                       | 0010300                          | 0480                      | 14975             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
| 128                          | D85         | T0427         | 0962               | 35175               | 2717                |                       |                                  |                           | 14962             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
|                              | STD         | 0500          | 0848               | 3509                | 2729                |                       | 0008669                          | 0575                      | 14931             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
|                              | D85         | 0533          | 0804               | 35065               | 2734                |                       |                                  |                           | 14919             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
| 128                          | STD         | 0600          | 0732               | 3507                | 2745                |                       | 0007440                          | 0657                      | 14903             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
|                              | D85         | T0538         | 0693               | 35067               | 2750                |                       |                                  |                           | 14894             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
|                              | STD         | 0700          | 0625               | 3503                | 2756                |                       | 0006342                          | 0726                      | 14877             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
| 128                          | STD         | 0800          | 0539               | 3499                | 2764                |                       | 0005606                          | 0786                      | 14858             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
|                              | D85         | 0864          | 0500               | 34971               | 2767                |                       |                                  |                           | 14852             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
|                              | STD         | 0900          | 0492               | 3498                | 2765                |                       | 0005185                          | 0840                      | 14855             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
| 128                          | STD         | 1000          | 0473               | 3498                | 2771                |                       | 0005051                          | 0891                      | 14864             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
|                              | D85         | T1084         | 0457               | 34988               | 2774                |                       |                                  |                           | 14872             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
|                              | STD         | 1100          | 0454               | 3499                | 2774                |                       | 0004860                          | 0940                      | 14873             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
| 128                          | STD         | 1200          | 0437               | 3498                | 2775                |                       | 0004808                          | 0989                      | 14883             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
|                              | STD         | 1300          | 0421               | 3497                | 2776                |                       | 0004757                          | 1037                      | 14893             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
|                              | STD         | 1400          | 0407               | 3496                | 2777                |                       | 0004734                          | 1084                      | 14903             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
| 128                          | STD         | 1500          | 0394               | 3495                | 2778                |                       | 0004712                          | 1131                      | 14915             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |
|                              | D85         | T1627         | 0380               | 34942               | 2778                |                       |                                  |                           | 14930             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |



TABLE X.—Continued

| 3231222014415512           |             |              |           |      |       |         |   |  |                   |                      |                                 |                      |                                 |                                 |                                   |    |
|----------------------------|-------------|--------------|-----------|------|-------|---------|---|--|-------------------|----------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|----|
| MESSAGE<br>TIME<br>HR 1/10 | CAST<br>NO. | CARD<br>TYPE | DEPTH (m) | T °C | S %   | SIGMA-T | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> | $\frac{\Delta \sigma_t}{\Delta \text{SWAL}} \times 10^3$ | SOUND<br>VELOCITY | D <sub>2</sub> (m/s) | PO <sub>4</sub> -P<br>µg - ml/l | TOTAL-P<br>µg - ml/l | NO <sub>3</sub> -N<br>µg - ml/l | NO <sub>3</sub> -N<br>µg - ml/l | SiO <sub>4</sub> -Si<br>µg - ml/l | pH |
| 100                        |             | STO          | 0000      | 1530 | 3600  | 2669    | 0013566                                   | 0000   | 15096             |                      |                                 |                      |                                 |                                 |                                   |    |
|                            |             | OBS          | 0000      | 1530 | 36002 | 2669    |   |  |                   | 15096                |                                 |                      |                                 |                                 |                                   |    |
|                            |             | STO          | 0010      | 1517 | 3602  | 2674    | 0013169                                   | 0013   | 15093             |                      |                                 |                      |                                 |                                 |                                   |    |
| 100                        |             | STO          | 0020      | 1507 | 3603  | 2677    | 0012936                                   | 0026   | 15092             |                      |                                 |                      |                                 |                                 |                                   |    |
|                            |             | OBS          | 0026      | 1503 | 36034 | 2678    |   |  |                   | 15092                |                                 |                      |                                 |                                 |                                   |    |
|                            |             | STO          | 0030      | 1503 | 3603  | 2678    | 0012880                                   | 0039   | 15092             |                      |                                 |                      |                                 |                                 |                                   |    |
| 100                        |             | STO          | 0050      | 1502 | 3603  | 2678    | 0012925                                   | 0065   | 15095             |                      |                                 |                      |                                 |                                 |                                   |    |
|                            |             | OBS          | 0052      | 1502 | 36028 | 2678    |   |  |                   | 15096                |                                 |                      |                                 |                                 |                                   |    |
|                            |             | STO          | 0075      | 1504 | 3605  | 2679    | 0012883                                   | 0097   | 15100             |                      |                                 |                      |                                 |                                 |                                   |    |
| 100                        |             | OBS          | 0079      | 1504 | 36055 | 2679    |   |  | 15101             |                      |                                 |                      |                                 |                                 |                                   |    |
|                            |             | STO          | 0100      | 1466 | 3598  | 2682    | 0012685                                   | 0129   | 15092             |                      |                                 |                      |                                 |                                 |                                   |    |
|                            |             | OBS          | 0105      | 1458 | 35965 | 2683    |   |  |                   | 15090                |                                 |                      |                                 |                                 |                                   |    |
| 100                        |             | STO          | 0125      | 1436 | 3593  | 2685    | 0012503                                   | 0161   | 15085             |                      |                                 |                      |                                 |                                 |                                   |    |
|                            |             | STO          | 0150      | 1409 | 3589  | 2687    | 0012314                                   | 0192   | 15080             |                      |                                 |                      |                                 |                                 |                                   |    |
|                            |             | OBS          | 0158      | 1400 | 35870 | 2688    |   |  |                   | 15078                |                                 |                      |                                 |                                 |                                   |    |
| 100                        |             | STO          | 0200      | 1351 | 3577  | 2690    | 0012163                                   | 0253   | 15068             |                      |                                 |                      |                                 |                                 |                                   |    |
|                            |             | OBS          | 0211      | 1339 | 35744 | 2691    |   |  |                   | 15066                |                                 |                      |                                 |                                 |                                   |    |
|                            |             | STO          | 0250      | 1320 | 3572  | 2693    | 0012052                                   | 0314   | 15055             |                      |                                 |                      |                                 |                                 |                                   |    |
| 100                        |             | STO          | 0300      | 1270 | 3564  | 2697    | 0011794                                   | 0373   | 15036             |                      |                                 |                      |                                 |                                 |                                   |    |
|                            |             | OBS          | 0313      | 1253 | 35611 | 2698    |   |  |                   | 15052                |                                 |                      |                                 |                                 |                                   |    |
|                            |             | STO          | 0400      | 1082 | 3532  | 2708    | 0010891                                   | 0487   | 15003             |                      |                                 |                      |                                 |                                 |                                   |    |
| 100                        |             | OBS          | 0413      | 1056 | 35280 | 2709    |   |  | 14995             |                      |                                 |                      |                                 |                                 |                                   |    |
|                            |             | STO          | 0500      | 0882 | 3509  | 2724    | 0009408                                   | 0588   | 14944             |                      |                                 |                      |                                 |                                 |                                   |    |
|                            |             | OBS          | 0513      | 0858 | 35072 | 2726    |   |  |                   | 14937                |                                 |                      |                                 |                                 |                                   |    |
| 100                        |             | STO          | 0600      | 0714 | 3497  | 2740    | 0007898                                   | 0675   | 14894             |                      |                                 |                      |                                 |                                 |                                   |    |
|                            |             | OBS          | 0605      | 0707 | 34969 | 2741    |   |  |                   | 14892                |                                 |                      |                                 |                                 |                                   |    |
|                            |             | STO          | 0700      | 0610 | 3497  | 2754    | 0006577                                   | 0747   | 14870             |                      |                                 |                      |                                 |                                 |                                   |    |
| 100                        |             | OBS          | 0799      | 0535 | 34974 | 2763    |   |  | 14856             |                      |                                 |                      |                                 |                                 |                                   |    |
|                            |             | STO          | 0800      | 0535 | 3497  | 2763    | 0005672                                   | 0808   | 14850             |                      |                                 |                      |                                 |                                 |                                   |    |
|                            |             | STO          | 0900      | 0494 | 3498  | 2769    | 0005233                                   | 0863   | 14856             |                      |                                 |                      |                                 |                                 |                                   |    |
| 100                        |             | OBS          | 0991      | 0463 | 34979 | 2772    |   |  | 14858             |                      |                                 |                      |                                 |                                 |                                   |    |
|                            |             | STO          | 1000      | 0461 | 3498  | 2772    | 0004904                                   | 0913   | 14859             |                      |                                 |                      |                                 |                                 |                                   |    |
|                            |             | STO          | 1100      | 0442 | 3497  | 2774    | 0004809                                   | 0962   | 14868             |                      |                                 |                      |                                 |                                 |                                   |    |
| 100                        |             | STO          | 1200      | 0425 | 3497  | 2776    | 0004727                                   | 1010   | 14878             |                      |                                 |                      |                                 |                                 |                                   |    |
|                            |             | STO          | 1300      | 0410 | 3496  | 2777    | 0004666                                   | 1057   | 14888             |                      |                                 |                      |                                 |                                 |                                   |    |
|                            |             | STO          | 1400      | 0398 | 3496  | 2778    | 0004646                                   | 1103   | 14900             |                      |                                 |                      |                                 |                                 |                                   |    |
| 100                        |             | OBS          | 1478      | 0390 | 34953 | 2778    |   |  | 14909             |                      |                                 |                      |                                 |                                 |                                   |    |
|                            |             | STO          | 1500      | 0389 | 3495  | 2778    | 0004669                                   | 1150   | 14913             |                      |                                 |                      |                                 |                                 |                                   |    |
|                            |             | STO          | 1750      | 0377 | 3495  | 2779    | 0004723                                   | 1267   | 14950             |                      |                                 |                      |                                 |                                 |                                   |    |
| 129                        |             | OBS          | 17904     | 0370 | 34945 | 2779    |   |  | 14973             |                      |                                 |                      |                                 |                                 |                                   |    |
|                            |             | STO          | 2000      | 0366 | 3495  | 2780    | 0004813                                   | 1386   | 14987             |                      |                                 |                      |                                 |                                 |                                   |    |
|                            |             | OBS          | 12403     | 0345 | 34943 | 2782    |   |  | 15047             |                      |                                 |                      |                                 |                                 |                                   |    |
| 129                        |             | STO          | 2500      | 0338 | 3494  | 2783    | 0004806                                   | 1627   | 15061             |                      |                                 |                      |                                 |                                 |                                   |    |
|                            |             | OBS          | 2901      | 0310 | 34941 | 2785    |   |  | 15118             |                      |                                 |                      |                                 |                                 |                                   |    |
|                            |             | STO          | 3000      | 0303 | 3494  | 2786    | 0004638                                   | 1863   | 15132             |                      |                                 |                      |                                 |                                 |                                   |    |
| 129                        |             | OBS          | 13401     | 0277 | 34531 | 2787    |   |  | 15191             |                      |                                 |                      |                                 |                                 |                                   |    |
|                            |             | OBS          | 13913     | 0243 | 34914 | 2789    |   |  | 15266             |                      |                                 |                      |                                 |                                 |                                   |    |
|                            |             | STO          | 4000      | 0242 | 3491  | 2789    | 0004413                                   | 2315   | 15281             |                      |                                 |                      |                                 |                                 |                                   |    |
| 129                        |             | OBS          | 4415      | 0236 | 34906 | 2789    |   |  | 15352             |                      |                                 |                      |                                 |                                 |                                   |    |
|                            |             | OBS          | 14446     | 0232 | 34908 | 2789    |   |  | 15356             |                      |                                 |                      |                                 |                                 |                                   |    |



TABLE X.—Continued

| REFERENCE                  |             | SHIP CODE    | LATITUDE<br>° ' 1/10 | LONGITUDE<br>° ' 1/10 | MO            | DAY         | HR 1/10 | YEAR                                   | ORIGINATOR'S   |   | DEPTH<br>TO<br>BOTTOM | MAX. DEPTH<br>OF<br>SAMPLE | WAVE<br>OBSERVATIONS                 |                           |                                      | WEA-<br>THER<br>CODE                 | CLOUD<br>CODES                         | TO<br>NODC<br>STATION<br>NUMBER |      |
|----------------------------|-------------|--------------|----------------------|-----------------------|---------------|-------------|---------|--|----------------|---|-----------------------|----------------------------|--------------------------------------|---------------------------|--------------------------------------|--------------------------------------|--|---------------------------------|------|
| CRT#<br>CODE               | ID.<br>NO.  |              |                      |                       | 10'           | 1'          |         |  | CRUISE<br>NO.  | STATION<br>NUMBER                             |                       |                            |                                      |                           |                                      |                                      |  |                                 |      |
| 311269                     | CK          |              | 4403 N               | 04057 W               | 149           | 40          | 06      | 05                                     | 129            | 1968  | 019                   | 006                        | 4703                                 | 14                        | 24                                   |                                      |  | 0006                            |      |
|                            |             |              |                      |                       | WATER         |             | WIND    |  | BARO-<br>METER |   | AIR TEMP. °C          |                            | NO.<br>OBS.<br>DEPTH                 | SPECIAL<br>OBSERVATIONS   |                                      |                                      |  |                                 |      |
|                            |             |              |                      |                       | COLOR<br>CODE | TRANS.<br>M | DIR.    | SPEED<br>OF<br>FORCE                   | DRY<br>BULB    | WET<br>BULB                                   | WIL<br>CODE           |                            |                                      |                           |                                      |                                      |  |                                 |      |
|                            |             |              |                      |                       | 21            | 512         | 240     |  | 156            | 133   | 7                     | 14                         |                                      |                           |                                      |                                      |  |                                 |      |
| MESSAGE<br>TIME<br>HR 1/10 | CARD<br>NO. | CARD<br>TYPE | DEPTH (m)            | T °C                  | S ‰           | SIGMA-T     |         | SPECIFIC VOLUME<br>ANOMALY- $\sigma_t$ |                | $\Sigma \Delta D$<br>DYN. M.<br>$\times 10^3$ | SOUND<br>VELOCITY     | O <sub>2</sub> ml/l        | PO <sub>4</sub> -P<br>$\mu g - dl/l$ | TOTAL-P<br>$\mu g - dl/l$ | NO <sub>3</sub> -N<br>$\mu g - dl/l$ | NO <sub>2</sub> -N<br>$\mu g - dl/l$ | SiO <sub>4</sub> -Si<br>$\mu g - dl/l$ | pH                              | CODE |
| 129                        | STD         | 0000         | 1546                 | 3600                  | 2666          |             |         | 0013907                                |                | 0000  | 15101                 |                            |                                      |                           |                                      |                                      |  |                                 |      |
|                            | DBS         | 0000         | 1546                 | 36002                 | 2666          |             |         |  |                |   | 15101                 |                            |                                      |                           |                                      |                                      |  |                                 |      |
|                            | STD         | 0010         | 1528                 | 3600                  | 2670          |             |         | 0013540                                |                | 0014  | 15097                 |                            |                                      |                           |                                      |                                      |  |                                 |      |
| 129                        | STD         | 0020         | 1514                 | 3601                  | 2673          |             |         | 0013259                                |                | 0027  | 15094                 |                            |                                      |                           |                                      |                                      |  |                                 |      |
|                            | DBS         | 0024         | 1510                 | 36007                 | 2674          |             |         |  |                |   | 15093                 |                            |                                      |                           |                                      |                                      |  |                                 |      |
|                            | STD         | 0030         | 1508                 | 3602                  | 2676          |             |         | 0013061                                |                | 0040  | 15094                 |                            |                                      |                           |                                      |                                      |  |                                 |      |
| 129                        | DBS         | 0048         | 1498                 | 36038                 | 2679          |             |         |  |                |   | 15094                 |                            |                                      |                           |                                      |                                      |  |                                 |      |
|                            | STD         | 0050         | 1496                 | 3603                  | 2679          |             |         | 0012796                                |                | 0066  | 15094                 |                            |                                      |                           |                                      |                                      |  |                                 |      |
|                            | DBS         | 0071         | 1480                 | 36007                 | 2681          |             |         |  |                |   | 15092                 |                            |                                      |                           |                                      |                                      |  |                                 |      |
| 129                        | STD         | 0075         | 1480                 | 3600                  | 2681          |             |         | 0012727                                |                | 0098  | 15092                 |                            |                                      |                           |                                      |                                      |  |                                 |      |
|                            | DBS         | 0096         | 1473                 | 35990                 | 2681          |             |         |  |                |   | 15093                 |                            |                                      |                           |                                      |                                      |  |                                 |      |
|                            | STD         | 0100         | 1469                 | 3598                  | 2681          |             |         | 0012748                                |                | 0130  | 15093                 |                            |                                      |                           |                                      |                                      |  |                                 |      |
| 129                        | STD         | 0125         | 1440                 | 3593                  | 2684          |             |         | 0012585                                |                | 0162  | 15087                 |                            |                                      |                           |                                      |                                      |  |                                 |      |
|                            | DBS         | 0142         | 1419                 | 35893                 | 2685          |             |         |  |                |   | 15082                 |                            |                                      |                           |                                      |                                      |  |                                 |      |
|                            | STD         | 0150         | 1407                 | 3587                  | 2686          |             |         | 0012419                                |                | 0193  | 15079                 |                            |                                      |                           |                                      |                                      |  |                                 |      |
| 129                        | DBS         | 0189         | 1352                 | 35782                 | 2691          |             |         |  |                |   | 15067                 |                            |                                      |                           |                                      |                                      |  |                                 |      |
|                            | STD         | 0200         | 1343                 | 3577                  | 2692          |             |         | 0012003                                |                | 0254  | 15065                 |                            |                                      |                           |                                      |                                      |  |                                 |      |
|                            | STD         | 0250         | 1294                 | 3569                  | 2696          |             |         | 0011760                                |                | 0313  | 15056                 |                            |                                      |                           |                                      |                                      |  |                                 |      |
| 129                        | DBS         | 0284         | 1254                 | 35622                 | 2698          |             |         |  |                |   | 15048                 |                            |                                      |                           |                                      |                                      |  |                                 |      |
|                            | STD         | 0300         | 1228                 | 3558                  | 2700          |             |         | 0011426                                |                | 0371  | 15041                 |                            |                                      |                           |                                      |                                      |  |                                 |      |
|                            | DBS         | 0382         | 1107                 | 35399                 | 2709          |             |         |  |                |   | 15010                 |                            |                                      |                           |                                      |                                      |  |                                 |      |
| 129                        | STD         | 0400         | 1089                 | 3538                  | 2711          |             |         | 0010576                                |                | 0481  | 15006                 |                            |                                      |                           |                                      |                                      |  |                                 |      |
|                            | DBS         | 0472         | 0992                 | 35275                 | 2720          |             |         |  |                |   | 14982                 |                            |                                      |                           |                                      |                                      |  |                                 |      |
|                            | STD         | 0500         | 0935                 | 3522                  | 2725          |             |         | 0009318                                |                | 0581  | 14965                 |                            |                                      |                           |                                      |                                      |  |                                 |      |
| 129                        | DBS         | 0561         | 0820                 | 35121                 | 2736          |             |         |  |                |   | 14931                 |                            |                                      |                           |                                      |                                      |  |                                 |      |
|                            | STD         | 0600         | 0749                 | 3510                  | 2745          |             |         | 0007457                                |                | 0665  | 14910                 |                            |                                      |                           |                                      |                                      |  |                                 |      |
|                            | STD         | 0700         | 0606                 | 3504                  | 2760          |             |         | 0006006                                |                | 0732  | 14869                 |                            |                                      |                           |                                      |                                      |  |                                 |      |
| 129                        | DBS         | 0756         | 0552                 | 35016                 | 2765          |             |         |  |                |   | 14856                 |                            |                                      |                           |                                      |                                      |  |                                 |      |
|                            | STD         | 0800         | 0541                 | 3500                  | 2765          |             |         | 0005559                                |                | 0790  | 14859                 |                            |                                      |                           |                                      |                                      |  |                                 |      |
|                            | STD         | 0900         | 0516                 | 3497                  | 2765          |             |         | 0005572                                |                | 0845  | 14865                 |                            |                                      |                           |                                      |                                      |  |                                 |      |
| 129                        | DBS         | 0952         | 0504                 | 34958                 | 2766          |             |         |  |                |   | 14859                 |                            |                                      |                           |                                      |                                      |  |                                 |      |
|                            | STD         | 1000         | 0493                 | 3496                  | 2767          |             |         | 0005459                                |                | 0901  | 14872                 |                            |                                      |                           |                                      |                                      |  |                                 |      |
|                            | STD         | 1100         | 0471                 | 3496                  | 2770          |             |         | 0005258                                |                | 0954  | 14880                 |                            |                                      |                           |                                      |                                      |  |                                 |      |
| 129                        | STD         | 1200         | 0450                 | 3497                  | 2773          |             |         | 0005066                                |                | 1006  | 14888                 |                            |                                      |                           |                                      |                                      |  |                                 |      |
|                            | STD         | 1300         | 0430                 | 3497                  | 2775          |             |         | 0004874                                |                | 1055  | 14896                 |                            |                                      |                           |                                      |                                      |  |                                 |      |
|                            | STD         | 1400         | 0411                 | 3497                  | 2777          |             |         | 0004698                                |                | 1103  | 14905                 |                            |                                      |                           |                                      |                                      |  |                                 |      |
| 129                        | DBS         | 1430         | 0406                 | 34974                 | 2778          |             |         |  |                |   | 14908                 |                            |                                      |                           |                                      |                                      |  |                                 |      |
|                            | STD         |              |                      |                       |               |             |         |  |                |   |                       |                            |                                      |                           |                                      |                                      |  |                                 |      |

| REFERENCE                  | SHIP CODE   | LATITUDE<br>° ' 1/10 | LONGITUDE<br>° ' 1/10 | MARS DEN<br>SQUARE<br>NO. 1/10 | STATION TIME  |             |  |                      | YEAR  | ORIGINATOR'S      |                     | DEPTH<br>TO<br>BOTTOM                | MAX.<br>DEPTH<br>OF<br>SMP/L'S | WAVE<br>OBSERVATIONS                 |                                      |  | WEA-<br>THER<br>CODE | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |      |
|----------------------------|-------------|----------------------|-----------------------|--------------------------------|---------------|-------------|--|----------------------|---|-------------------|---------------------|--------------------------------------|--------------------------------|--------------------------------------|--------------------------------------|--|----------------------|----------------|---------------------------|------|
|                            |             |                      |                       |                                | TIME          |             | DATE                                   |                      |   | CRUISE<br>NO.     | STATION<br>NUMBER   |                                      |                                | DIR.                                 | HGT                                  | PER                                    |                      |                |                           | SEA  |
|                            |             |                      |                       |                                | 10'           | 1'          | MO                                     | DAY                  |   |                   |                     |                                      |                                |                                      |                                      |  |                      |                |                           |      |
| 311269                     | CK          | 4401 N               | 04100 W               |                                | 149           | 41          | 06                                     | 06                   | 123   | 1968              | 019                 | 007                                  | 4627                           | 15                                   | 24                                   |  | 4                    | X4             | X9                        | 0007 |
|                            |             |                      |                       |                                | WATER         |             | WIND                                   |                      | BARO-<br>METER                                |                   | AIR TEMP °C         |                                      | NO.<br>OBS.<br>DEPTH           | SPECIAL<br>OBSERVATIONS              |                                      |  |                      |                |                           |      |
|                            |             |                      |                       |                                | COLOR<br>CODE | TRANS.<br>M | DIR.                                   | SPEED<br>OF<br>FORCE | DRY<br>BULB                                   | WET<br>BULB       | VIS<br>CODE         |                                      |                                |                                      |                                      |  |                      |                |                           |      |
|                            |             |                      |                       |                                |               |             |  | 23                   | 518   | 190               | 161                 | 161                                  | 5                              | 14                                   |                                      |  |                      |                |                           |      |
| MESSAGE<br>TIME<br>HR 1/10 | CARD<br>NO. | CARD<br>TYPE         | DEPTH (m)             | T °C                           | S ‰           | SIGMA-T     | SPECIFIC VOLUME<br>ANOMALY- $\sigma_t$ |                      | $\Sigma \Delta D$<br>DYN. M.<br>$\times 10^3$ | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>$\mu g - dl/l$ | TOTAL-P<br>$\mu g - dl/l$      | NO <sub>3</sub> -N<br>$\mu g - dl/l$ | NO <sub>2</sub> -N<br>$\mu g - dl/l$ | SiO <sub>4</sub> -Si<br>$\mu g - dl/l$ | pH                   |                |                           |      |
| 123                        | STD         | 0000                 | 1538                  | 3602                           | 2669          | 0013576     | 0000                                   |                      | 15098   | 15098             |                     |                                      |                                |                                      |                                      |  |                      |                |                           |      |
|                            | DBS         | 0000                 | 1538                  | 36024                          | 2669          |             |  |                      | 15098   | 15098             |                     |                                      |                                |                                      |                                      |  |                      |                |                           |      |
|                            | STD         | 0010                 | 1537                  | 3602                           | 2670          | 0013590     | 0014                                   |                      | 15100   | 15100             |                     |                                      |                                |                                      |                                      |  |                      |                |                           |      |
|                            | STD         | 0020                 | 1536                  | 3602                           | 2670          | 0013602     | 0027                                   |                      | 15101   | 15101             |                     |                                      |                                |                                      |                                      |  |                      |                |                           |      |
| 123                        | DBS         | 0024                 | 1536                  | 36024                          | 2670          |             |  |                      | 15102   | 15102             |                     |                                      |                                |                                      |                                      |  |                      |                |                           |      |
|                            | STD         | 0030                 | 1521                  | 3602                           | 2673          | 0013336     | 0041                                   |                      | 15098   | 15098             |                     |                                      |                                |                                      |                                      |  |                      |                |                           |      |
| 123                        | DBS         | 0047                 | 1455                  | 36012                          | 2678          |             |  |                      | 15092   | 15092             |                     |                                      |                                |                                      |                                      |  |                      |                |                           |      |
|                            | STD         | 0050                 | 1495                  | 3602                           | 2679          | 0012848     | 0067                                   |                      | 15093   | 15093             |                     |                                      |                                |                                      |                                      |  |                      |                |                           |      |
| 123                        | DBS         | 0071                 | 1455                  | 36024                          | 2679          |             |  |                      | 15097   | 15097             |                     |                                      |                                |                                      |                                      |  |                      |                |                           |      |
|                            | STD         | 0075                 | 1494                  | 3602                           | 2679          | 0012904     | 0099                                   |                      | 15097   | 15097             |                     |                                      |                                |                                      |                                      |  |                      |                |                           |      |
| 123                        | DBS         | 0095                 | 1484                  | 36002                          | 2680          |             |  |                      | 15097   | 15097             |                     |                                      |                                |                                      |                                      |  |                      |                |                           |      |
|                            | STD         | 0100                 | 1480                  | 3600                           | 2680          | 0012832     | 0131                                   |                      | 15096   | 15096             |                     |                                      |                                |                                      |                                      |  |                      |                |                           |      |
| 123                        | DBS         | 0125                 | 1459                  | 3598                           | 2683          |             |  |                      | 15093   | 15093             |                     |                                      |                                |                                      |                                      |  |                      |                |                           |      |
|                            | STD         | 0144                 | 1440                  | 35946                          | 2685          | 0012615     | 0163                                   |                      | 15090   | 15090             |                     |                                      |                                |                                      |                                      |  |                      |                |                           |      |
| 123                        | DBS         | 0150                 | 1434                  | 3593                           | 2685          |             |  |                      | 15089   | 15089             |                     |                                      |                                |                                      |                                      |  |                      |                |                           |      |
|                            | STD         | 0192                 | 1382                  | 35824                          | 2688          | 0012536     | 0194                                   |                      | 15078   | 15078             |                     |                                      |                                |                                      |                                      |  |                      |                |                           |      |
| 123                        | DBS         | 0200                 | 1367                  | 3579                           | 2688          | 0012337     | 0257                                   |                      | 15074   | 15074             |                     |                                      |                                |                                      |                                      |  |                      |                |                           |      |
|                            | STD         | 0250                 | 1279                  | 3562                           | 2693          | 0011980     | 0317                                   |                      | 15050   | 15050             |                     |                                      |                                |                                      |                                      |  |                      |                |                           |      |
| 123                        | DBS         | 0292                 | 1214                  | 35508                          | 2697          |             |  |                      | 15034   | 15034             |                     |                                      |                                |                                      |                                      |  |                      |                |                           |      |
|                            | STD         | 0300                 | 1207                  | 3550                           | 2698          | 0011615     | 0376                                   |                      | 15033   | 15033             |                     |                                      |                                |                                      |                                      |  |                      |                |                           |      |
| 123                        | DBS         | 0395                 | 1090                  | 35388                          | 2711          |             |  |                      | 15006   | 15006             |                     |                                      |                                |                                      |                                      |  |                      |                |                           |      |
|                            | STD         | 0400                 | 1080                  | 3538                           | 2713          | 0010415     | 0487                                   |                      | 15003   | 15003             |                     |                                      |                                |                                      |                                      |  |                      |                |                           |      |
| 123                        | DBS         | 0493                 | 0906                  | 35180                          | 2727          |             |  |                      | 14953   | 14953             |                     |                                      |                                |                                      |                                      |  |                      |                |                           |      |
|                            | STD         | 0500                 | 0854                  | 3517                           | 2728          | 0009014     | 0584                                   |                      | 14949   | 14949             |                     |                                      |                                |                                      |                                      |  |                      |                |                           |      |
| 123                        | DBS         | 0594                 | 0745                  | 35048                          | 2741          |             |  |                      | 14909   | 14909             |                     |                                      |                                |                                      |                                      |  |                      |                |                           |      |
|                            | STD         | 0600                 | 0737                  | 3505                           | 2742          | 0007668     | 0667                                   |                      | 14904   | 14904             |                     |                                      |                                |                                      |                                      |  |                      |                |                           |      |
| 123                        | DBS         | 0700                 | 0625                  | 3503                           | 2756          | 0006371     | 0737                                   |                      | 14877   | 14877             |                     |                                      |                                |                                      |                                      |  |                      |                |                           |      |
|                            | STD         | 0756                 | 0546                  | 35006                          | 2765          |             |  |                      | 14860   | 14860             |                     |                                      |                                |                                      |                                      |  |                      |                |                           |      |
| 123                        | DBS         | 0800                 | 0544                  | 3501                           | 2765          | 0005554     | 0797                                   |                      | 14860   | 14860             |                     |                                      |                                |                                      |                                      |  |                      |                |                           |      |
|                            | STD         | 0900                 | 0504                  | 3500                           | 2769          | 0005193     | 0851                                   |                      | 14850   | 14850             |                     |                                      |                                |                                      |                                      |  |                      |                |                           |      |
| 123                        | DBS         | 0995                 | 0471                  | 34995                          | 2773          |             |  |                      | 14863   | 14863             |                     |                                      |                                |                                      |                                      |  |                      |                |                           |      |
|                            | STD         | 1000                 | 0469                  | 3499                           | 2772          | 0004926     | 0901                                   |                      | 14863   | 14863             |                     |                                      |                                |                                      |                                      |  |                      |                |                           |      |
| 123                        | DBS         | 1100                 | 0440                  | 3499                           | 2776          | 0004658     | 0949                                   |                      | 14867   | 14867             |                     |                                      |                                |                                      |                                      |  |                      |                |                           |      |
|                            | STD         | 1200                 | 0417                  | 3498                           | 2777          | 0004536     | 0995                                   |                      | 14874   | 14874             |                     |                                      |                                |                                      |                                      |  |                      |                |                           |      |
| 123                        | DBS         | 1300                 | 0356                  | 3496                           | 2778          | 0004533     | 1041                                   |                      | 14883   | 14883             |                     |                                      |                                |                                      |                                      |  |                      |                |                           |      |
|                            | STD         | 1400                 | 0386                  | 3495                           | 2778          | 0004542     | 1086                                   |                      | 14895   | 14895             |                     |                                      |                                |                                      |                                      |  |                      |                |                           |      |
| 123                        | DBS         | 1488                 | 0379                  | 34936                          | 2778          |             |  |                      | 14906   | 14906             |                     |                                      |                                |                                      |                                      |  |                      |                |                           |      |



TABLE X.—Continued

| REFERENCE<br>CITE<br>CODE | SHIP<br>CODE | LATITUDE<br>1/10 | LONGITUDE<br>1/10 | MARS<br>SQUARE | STATION TIME<br>(GMT) |                 |  | YEAR            | ORIGINATOR'S                               |                      | DEPTH<br>TO<br>BOTTOM | WAVE<br>OBSERVATIONS            | CLOUD<br>CODES       | NOOD<br>STATION<br>NUMBER       |                                 |                                   |      |
|---------------------------|--------------|------------------|-------------------|----------------|-----------------------|-----------------|--|-----------------|--|----------------------|-----------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|------|
|                           |              |                  |                   |                | 10'                   | 1"              | MO DAY HR.1/10                         |                 | CRUISE<br>NO.                              | STATION<br>NUMBER    |                       |                                 |                      |                                 |                                 |                                   |      |
| 311269                    | CK           | 4416 N           | 04143 W           | 149            | 41                    | 06 07 15        | 1968                                   | 019             | 008  | 4693                 | 07                    | 20                              |                      | 4                               | X2                              | 6 8                               | 0008 |
|                           |              |                  |                   |                |                       |                 |  |                 |  |                      |                       |                                 |                      |                                 |                                 |                                   |      |
|                           |              | WATER            |                   | WIND           |                       | AIR TEMP. °C    |  | NO. OBS. DEPTHS |  | SPECIAL OBSERVATIONS |                       |                                 |                      |                                 |                                 |                                   |      |
|                           |              | COLOR CODE       | TRANS. M          | DIR.           | SPEED OR FORCE        | BARO-METER (mb) | DRY BULB                               | WET BULB        | VIS. CODE                                  |                      |                       |                                 |                      |                                 |                                 |                                   |      |
|                           |              |                  |                   |                | 17                    | 523             | 120                                    | 167             | 161  | 7                    | 11                    |                                 |                      |                                 |                                 |                                   |      |
| MESSAGE TIME<br>HR 1/10   | CAS<br>NO.   | CARD<br>TYPE     | DEPTH (m)         | T °C           | S ‰                   | SIGMA-T         | SPECIFIC VOLUME<br>ANOMALY- $\sigma_t$ |                 | $\Sigma \Delta D$<br>DYN. M.<br>$\pm 10^3$ | SOUND<br>VELOCITY    | O <sub>2</sub> ml/l   | PO <sub>4</sub> -P<br>pg - ml/l | TOTAL-P<br>pg - ml/l | NO <sub>2</sub> -N<br>pg - ml/l | NO <sub>3</sub> -N<br>pg - ml/l | SiO <sub>4</sub> -Si<br>pg - ml/l | pH   |
| 125                       |              | STD              | 0000              | 1583           | 3612                  | 2667            | 0013839                                |                 | 0000                                       | 15114                |                       |                                 |                      |                                 |                                 |                                   |      |
|                           |              | OBS              | 0000              | 1583           | 36121                 | 2667            |  |                 |  | 15114                |                       |                                 |                      |                                 |                                 |                                   |      |
|                           |              | STD              | 0010              | 1582           | 3613                  | 2667            | 0013810                                |                 | 0014                                       | 15115                |                       |                                 |                      |                                 |                                 |                                   |      |
|                           |              | STD              | 0020              | 1580           | 3613                  | 2668            | 0013783                                |                 | 0028                                       | 15116                |                       |                                 |                      |                                 |                                 |                                   |      |
| 125                       |              | OBS              | 0021              | 1580           | 36129                 | 2668            |  |                 |  | 15116                |                       |                                 |                      |                                 |                                 |                                   |      |
|                           |              | STD              | 0030              | 1568           | 3614                  | 2671            | 0013470                                |                 | 0041                                       | 15114                |                       |                                 |                      |                                 |                                 |                                   |      |
| 125                       |              | OBS              | 0042              | 1556           | 36155                 | 2675            |  |                 |  | 15113                |                       |                                 |                      |                                 |                                 |                                   |      |
|                           |              | STD              | 0050              | 1554           | 3615                  | 2676            | 0013128                                |                 | 0068                                       | 15113                |                       |                                 |                      |                                 |                                 |                                   |      |
| 125                       |              | OBS              | 0063              | 1550           | 36151                 | 2676            |  |                 |  | 15114                |                       |                                 |                      |                                 |                                 |                                   |      |
|                           |              | STD              | 0075              | 1542           | 3614                  | 2677            | 0013051                                |                 | 0101                                       | 15113                |                       |                                 |                      |                                 |                                 |                                   |      |
|                           |              | STD              | 0100              | 1524           | 3611                  | 2679            | 0012962                                |                 | 0133                                       | 15111                |                       |                                 |                      |                                 |                                 |                                   |      |
| 125                       |              | OBS              | 0121              | 1510           | 36087                 | 2680            |  |                 |  | 15110                |                       |                                 |                      |                                 |                                 |                                   |      |
|                           |              | STD              | 0125              | 1508           | 3608                  | 2680            | 0012917                                |                 | 0165                                       | 15110                |                       |                                 |                      |                                 |                                 |                                   |      |
|                           |              | STD              | 0150              | 1493           | 3605                  | 2681            | 0012894                                |                 | 0198                                       | 15109                |                       |                                 |                      |                                 |                                 |                                   |      |
| 125                       |              | OBS              | T0162             | 1483           | 36028                 | 2682            |  |                 |  | 15108                |                       |                                 |                      |                                 |                                 |                                   |      |
|                           |              | STD              | 0200              | 1430           | 3592                  | 2685            | 0012674                                |                 | 0262                                       | 15096                |                       |                                 |                      |                                 |                                 |                                   |      |
| 125                       |              | OBS              | 0240              | 1377           | 35620                 | 2688            |  |                 |  | 15084                |                       |                                 |                      |                                 |                                 |                                   |      |
|                           |              | STD              | 0250              | 1371           | 3580                  | 2688            | 0012487                                |                 | 0325                                       | 15083                |                       |                                 |                      |                                 |                                 |                                   |      |
|                           |              | STD              | 0300              | 1318           | 3569                  | 2691            | 0012369                                |                 | 0387                                       | 15073                |                       |                                 |                      |                                 |                                 |                                   |      |
| 125                       |              | OBS              | T0323             | 1287           | 35639                 | 2693            |  |                 |  | 15065                |                       |                                 |                      |                                 |                                 |                                   |      |
|                           |              | STD              | 0400              | 1155           | 3545                  | 2704            | 0011262                                |                 | 0505                                       | 15030                |                       |                                 |                      |                                 |                                 |                                   |      |
| 125                       |              | OBS              | 0403              | 1149           | 35442                 | 2705            |  |                 |  | 15029                |                       |                                 |                      |                                 |                                 |                                   |      |
|                           |              | OBS              | T0489             | 0970           | 35242                 | 2721            |  |                 |  | 14976                |                       |                                 |                      |                                 |                                 |                                   |      |
| 125                       |              | *STD             | 0660              | 0667           | 35007                 | 2749            | 0007042                                |                 | 0743                                       | 14886                |                       |                                 |                      |                                 |                                 |                                   |      |

| REFERENCE<br>CRIP<br>CODE  | SHIP<br>CODE | LATITUDE<br>1/10 | LONGITUDE<br>1/10 | MARS<br>SQUARE | STATION TIME<br>(GMT) | YEAR          | ORIGINATOR'S                              |                   | DEPTH<br>TO<br>BOTTOM                 | WAVE<br>DEPTH<br>OF<br>SWELL'S | WAVE<br>OBSERVATIONS    |                                 |                      | WEA-<br>THER<br>CODE            | CLOUD<br>CODES                  | MODC<br>STATION<br>NUMBER         |    |
|----------------------------|--------------|------------------|-------------------|----------------|-----------------------|---------------|---|-------------------|---------------------------------------|--------------------------------|-------------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|----|
|                            |              |                  |                   |                |                       |               | CRUISE<br>NO.                             | STATION<br>NUMBER |                                       |                                | DIR.                    | HGT.                            | PER.                 |                                 |                                 |                                   |    |
|                            |              |                  |                   |                |                       |               |   |                   |                                       |                                |                         |                                 |                      |                                 |                                 |                                   |    |
| 311269                     | CK           | 4401 N           | 04051 W           | 149            | 40 06 08              | 124           | 1968                                      | 019 009           | 4700                                  | 15                             | 27                      |                                 | 5                    | X1                              | 6 5                             | 0009                              |    |
|                            |              |                  |                   |                |                       |               |   |                   |                                       |                                |                         |                                 |                      |                                 |                                 |                                   |    |
|                            |              | WATER            |                   | WIND           |                       | BARO-         |   | AIR TEMP. °C      |                                       | NO. OBS.<br>DEPTH              | SPECIAL<br>OBSERVATIONS |                                 |                      |                                 |                                 |                                   |    |
|                            |              | COLOR<br>CODE    | TRANS.<br>M       | DIR.           | SPEED<br>OR<br>FORCE  | METER<br>(mm) | DRY<br>BULB                               | WET<br>BULB       | VIS.<br>CODE                          |                                |                         |                                 |                      |                                 |                                 |                                   |    |
|                            |              |                  |                   |                | 25                    | 516           | 150                                       | 128               | 111                                   | 7                              | 14                      |                                 |                      |                                 |                                 |                                   |    |
| MESSAGE<br>TIME<br>HR 1/10 | CAS<br>NO.   | CARD<br>TYPE     | DEPTH (m)         | T °C           | S ‰                   | SIGMA-T       | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> |                   | Σ Δ D<br>DYN. M.<br>± 10 <sup>3</sup> | SOUND<br>VELOCITY              | O <sub>2</sub> ml/l     | PO <sub>4</sub> -P<br>pg - ml/l | TOTAL-P<br>pg - ml/l | NO <sub>2</sub> -N<br>pg - ml/l | NO <sub>3</sub> -N<br>pg - ml/l | SiO <sub>4</sub> -Si<br>pg - ml/l | pH |
| 124                        |              | STD              | 0000              | 1499           | 3567                  | 2666          | 0013874                                   |                   | 0000                                  | 15084                          |                         |                                 |                      |                                 |                                 |                                   |    |
|                            |              | OBS              | 0000              | 1499           | 35670                 | 2666          |   |                   |                                       | 15084                          |                         |                                 |                      |                                 |                                 |                                   |    |
|                            |              | STD              | 0010              | 1497           | 3587                  | 2667          | 0013865                                   |                   | 0014                                  | 15085                          |                         |                                 |                      |                                 |                                 |                                   |    |
|                            |              | STD              | 0020              | 1495           | 3567                  | 2667          | 0013856                                   |                   | 0028                                  | 15086                          |                         |                                 |                      |                                 |                                 |                                   |    |
| 124                        |              | OBS              | 0026              | 1494           | 35868                 | 2667          |   |                   |                                       | 15087                          |                         |                                 |                      |                                 |                                 |                                   |    |
|                            |              | STD              | 0030              | 1480           | 3587                  | 2670          | 0013568                                   |                   | 0041                                  | 15083                          |                         |                                 |                      |                                 |                                 |                                   |    |
|                            |              | STD              | 0050              | 1431           | 3589                  | 2683          | 0012469                                   |                   | 0067                                  | 15071                          |                         |                                 |                      |                                 |                                 |                                   |    |
| 124                        |              | OBS              | 0051              | 1430           | 35892                 | 2683          |   |                   |                                       | 15071                          |                         |                                 |                      |                                 |                                 |                                   |    |
|                            |              | STD              | 0075              | 1422           | 3589                  | 2685          | 0012358                                   |                   | 0099                                  | 15072                          |                         |                                 |                      |                                 |                                 |                                   |    |
| 124                        |              | OBS              | 0076              | 1422           | 35891                 | 2685          |   |                   |                                       | 15072                          |                         |                                 |                      |                                 |                                 |                                   |    |
|                            |              | STD              | 0100              | 1411           | 3588                  | 2686          | 0012308                                   |                   | 0129                                  | 15072                          |                         |                                 |                      |                                 |                                 |                                   |    |
| 124                        |              | OBS              | 0101              | 1410           | 35874                 | 2686          |   |                   |                                       | 15072                          |                         |                                 |                      |                                 |                                 |                                   |    |
|                            |              | STD              | 0125              | 1402           | 3586                  | 2686          | 0012325                                   |                   | 0160                                  | 15074                          |                         |                                 |                      |                                 |                                 |                                   |    |
|                            |              | STD              | 0150              | 1387           | 3584                  | 2688          | 0012203                                   |                   | 0191                                  | 15073                          |                         |                                 |                      |                                 |                                 |                                   |    |
| 124                        |              | OBS              | 0151              | 1386           | 35843                 | 2689          |   |                   |                                       | 15072                          |                         |                                 |                      |                                 |                                 |                                   |    |
|                            |              | STD              | 0200              | 1338           | 3576                  | 2692          | 0011948                                   |                   | 0251                                  | 15064                          |                         |                                 |                      |                                 |                                 |                                   |    |
| 124                        |              | OBS              | T0202             | 1336           | 35761                 | 2693          |   |                   |                                       | 15063                          |                         |                                 |                      |                                 |                                 |                                   |    |
|                            |              | STD              | 0250              | 1286           | 3566                  | 2695          | 0011824                                   |                   | 0311                                  | 15053                          |                         |                                 |                      |                                 |                                 |                                   |    |
|                            |              | STD              | 0300              | 1222           | 3556                  | 2700          | 0011459                                   |                   | 0369                                  | 15038                          |                         |                                 |                      |                                 |                                 |                                   |    |
| 124                        |              | OBS              | 0301              | 1221           | 35553                 | 2700          |   |                   |                                       | 15038                          |                         |                                 |                      |                                 |                                 |                                   |    |
|                            |              | STD              | 0400              | 1060           | 3533                  | 2712          | 0010428                                   |                   | 0478                                  | 14995                          |                         |                                 |                      |                                 |                                 |                                   |    |
| 124                        |              | OBS              | T0402             | 1057           | 35328                 | 2713          |   |                   |                                       | 14995                          |                         |                                 |                      |                                 |                                 |                                   |    |
|                            |              | STD              | 0500              | 0891           | 3515                  | 2727          | 0009083                                   |                   | 0576                                  | 14948                          |                         |                                 |                      |                                 |                                 |                                   |    |
| 124                        |              | OBS              | 0500              | 0891           | 35154                 | 2727          |   |                   |                                       | 14948                          |                         |                                 |                      |                                 |                                 |                                   |    |
|                            |              | OBS              | T0593             | 0740           | 35048                 | 2742          |   |                   |                                       | 14904                          |                         |                                 |                      |                                 |                                 |                                   |    |
| 124                        |              | STD              | 0600              | 0733           | 3505                  | 2743          | 0007609                                   |                   | 0659                                  | 14903                          |                         |                                 |                      |                                 |                                 |                                   |    |
|                            |              | STD              | 0700              | 0639           | 3503                  | 2754          | 0006566                                   |                   | 0730                                  | 14882                          |                         |                                 |                      |                                 |                                 |                                   |    |
|                            |              | STD              | 0800              | 0565           | 3501                  | 2762          | 0005842                                   |                   | 0792                                  | 14669                          |                         |                                 |                      |                                 |                                 |                                   |    |
|                            |              | OBS              | 0800              | 0565           | 35005                 | 2762          |   |                   |                                       | 14869                          |                         |                                 |                      |                                 |                                 |                                   |    |
| 124                        |              | STD              | 0900              | 0515           | 3499                  | 2767          | 0005411                                   |                   | 0848                                  | 14865                          |                         |                                 |                      |                                 |                                 |                                   |    |
|                            |              | STD              | 1000              | 0473           | 3498                  | 2771          | 0005051                                   |                   | 0901                                  | 14864                          |                         |                                 |                      |                                 |                                 |                                   |    |
|                            |              | OBS              | T1005             | 0471           | 34578                 | 2771          |   |                   |                                       | 14864                          |                         |                                 |                      |                                 |                                 |                                   |    |
| 124                        |              | STD              | 1100              | 0456           | 3497                  | 2772          | 0005012                                   |                   | 0951                                  | 14874                          |                         |                                 |                      |                                 |                                 |                                   |    |
|                            |              | STD              | 1200              | 0440           | 3456                  | 2773          | 0004983                                   |                   | 1001                                  | 14884                          |                         |                                 |                      |                                 |                                 |                                   |    |
|                            |              | STD              | 1300              | 0425           | 3495                  | 2774          | 0004950                                   |                   | 1051                                  | 14894                          |                         |                                 |                      |                                 |                                 |                                   |    |
|                            |              | STD              | 1400              | 0409           | 3495                  | 2776          | 0004838                                   |                   | 1100                                  | 14904                          |                         |                                 |                      |                                 |                                 |                                   |    |
|                            |              | STD              | 1500              | 0393           | 3495                  | 2778          | 0004723                                   |                   | 1147                                  | 14914                          |                         |                                 |                      |                                 |                                 |                                   |    |
|                            |              | OBS              | T1526             | 0389           | 34948                 | 2776          |   |                   |                                       | 14917                          |                         |                                 |                      |                                 |                                 |                                   |    |



TABLE X.—Continued

| REFERENCE<br>CHRY<br>CODE  | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | DEPTH<br>METER | MARDEN<br>SQUARE | STATION TIME<br>(GMT) |                      | YEAR                                      | ORIGINATOR'S  |                                       | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPLE | WAVE<br>OBSERVATIONS            |                      |                                 | WEA-<br>THER<br>CODE            | CLOUD<br>CODES                    | NODC<br>STATION<br>NUMBER |     |      |
|----------------------------|--------------|--------------------|---------------------|----------------|------------------|-----------------------|----------------------|---|---------------|---------------------------------------|-----------------------|-------------------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|---------------------------|-----|------|
|                            |              |                    |                     |                |                  | 10'                   | 1'                   |   | CRUISE<br>NO. | STATION<br>NUMBER                     |                       |                               | DIR.                            | HGT                  | PER                             |                                 |                                   |                           | SEA |      |
| 311269                     | CK           | 4344 N             | 04050 W             | 149            | 30               | MO                    | 09                   | 154                                       | 1908          | 019                                   | 010                   | 4755                          | 15                              | 28                   |                                 | 3                               | X1                                | 8                         | 6   | 0010 |
|                            |              |                    |                     | WATER          |                  | WIND                  |                      | BARO-<br>METER<br>(mb)                    | AIR TEMP. °C  |                                       | VIS.<br>CODE          | NO.<br>OBS.<br>DEPTH          | SPECIAL<br>OBSERVATIONS         |                      |                                 |                                 |                                   |                           |     |      |
|                            |              |                    |                     | COLOR<br>CODE  | TRANS.<br>UNIT   | DIR.                  | SPEED<br>OF<br>FORCE |   | DRY<br>BULB   | WET<br>BULB                           |                       |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              |                    |                     |                |                  |                       | 28                   | 526                                       | 102           | 111                                   | 094                   | 8                             | 14                              |                      |                                 |                                 |                                   |                           |     |      |
| MESSAGE<br>TIME<br>HR 1/10 | CAS<br>NO.   | CARD<br>TYPE       | DEPTH (m)           | T °C           | S ‰              | SIGMA-T               |                      | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> |               | Σ Δ σ<br>DTN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY     | O <sub>2</sub> ml/l           | PO <sub>2</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l | NO <sub>2</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | Si O <sub>2</sub> -S<br>μg - ml/l | pH                        |     |      |
|                            |              | STD                | 0000                | 1561           | 3608             | 2668                  |                      | 0013660                                   |               | 0000                                  | 15106                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
| 154                        |              | DBS                | 0000                | 1561           | 36080            | 2668                  |                      |   |               |                                       | 15106                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 0010                | 1562           | 3608             | 2668                  |                      | 0013702                                   |               | 0014                                  | 15108                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 0020                | 1563           | 3608             | 2668                  |                      | 0013742                                   |               | 0027                                  | 15110                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
| 154                        |              | DBS                | 0026                | 1563           | 36082            | 2668                  |                      |   |               |                                       | 15111                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 0030                | 1561           | 3610             | 2670                  |                      | 0013610                                   |               | 0041                                  | 15111                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 0050                | 1549           | 3616             | 2678                  |                      | 0012948                                   |               | 0068                                  | 15112                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
| 154                        |              | DBS                | 0050                | 1549           | 36164            | 2678                  |                      |   |               |                                       | 15112                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
| 154                        |              | DBS                | 0072                | 1535           | 36139            | 2679                  |                      |   |               |                                       | 15111                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 0075                | 1534           | 3614             | 2679                  |                      | 0012938                                   |               | 0100                                  | 15111                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
| 154                        |              | DBS                | 0095                |                | 36114            |                       |                      |   |               |                                       |                       |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 0100                | 1522           | 3611             | 2680                  |                      | 0012919                                   |               | 0132                                  | 15111                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 0125                | 1505           | 3607             | 2680                  |                      | 0012926                                   |               | 0165                                  | 15109                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
| 154                        |              | DBS                | 0140                | 1492           | 36048            | 2681                  |                      |   |               |                                       | 15107                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 0150                | 1481           | 3602             | 2682                  |                      | 0012859                                   |               | 0197                                  | 15105                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
| 154                        |              | DBS                | 0185                | 1443           | 35546            | 2684                  |                      |   |               |                                       | 15098                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 0200                | 1421           | 3550             | 2686                  |                      | 0012634                                   |               | 0261                                  | 15092                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 0250                | 1361           | 3579             | 2690                  |                      | 0012358                                   |               | 0323                                  | 15080                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
| 154                        |              | DBS                | 0276                | 1339           | 35756            | 2692                  |                      |   |               |                                       | 15076                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 0300                | 1331           | 3575             | 2693                  |                      | 0012200                                   |               | 0384                                  | 15077                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
| 154                        |              | DBS                | 0369                | 1307           | 35724            | 2696                  |                      |   |               |                                       | 15081                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 0400                | 1259           | 3562             | 2697                  |                      | 0011991                                   |               | 0505                                  | 15068                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
| 154                        |              | DBS                | 0465                | 1137           | 35412            | 2705                  |                      |   |               |                                       | 15034                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 0500                | 1045           | 3530             | 2713                  |                      | 0010611                                   |               | 0618                                  | 15006                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
| 154                        |              | DBS                | 0560                | 0906           | 35154            | 2725                  |                      |   |               |                                       | 14963                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 0600                | 0830           | 3510             | 2733                  |                      | 0008698                                   |               | 0715                                  | 14941                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 0700                | 0678           | 3501             | 2748                  |                      | 0007239                                   |               | 0795                                  | 14897                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
| 154                        |              | DBS                | 0750                | 0621           | 34984            | 2753                  |                      |   |               |                                       | 14883                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 0800                | 0594           | 3500             | 2758                  |                      | 0006274                                   |               | 0862                                  | 14880                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 0900                | 0544           | 3503             | 2767                  |                      | 0005502                                   |               | 0921                                  | 14877                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
| 154                        |              | DBS                | 0942                | 0526           | 35037            | 2769                  |                      |   |               |                                       | 14877                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 1000                | 0503           | 3503             | 2772                  |                      | 0005075                                   |               | 0974                                  | 14877                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 1100                | 0468           | 3502             | 2775                  |                      | 0004807                                   |               | 1023                                  | 14879                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 1200                | 0442           | 3501             | 2777                  |                      | 0004660                                   |               | 1071                                  | 14885                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 1300                | 0422           | 3500             | 2778                  |                      | 0004586                                   |               | 1117                                  | 14893                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 1400                | 0410           | 3498             | 2778                  |                      | 0004612                                   |               | 1163                                  | 14905                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
| 154                        |              | DBS                | 1454                | 0407           | 34977            | 2778                  |                      |   |               |                                       | 14913                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |

| REFERENCE<br>CHRY<br>CODE  | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | DEPTH<br>METER | MARDEN<br>SQUARE | STATION TIME<br>(GMT) |                      | YEAR                                      | ORIGINATOR'S  |                                       | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPLE | WAVE<br>OBSERVATIONS            |                      |                                 | WEA-<br>THER<br>CODE            | CLOUD<br>CODES                    | NODC<br>STATION<br>NUMBER |     |      |
|----------------------------|--------------|--------------------|---------------------|----------------|------------------|-----------------------|----------------------|---|---------------|---------------------------------------|-----------------------|-------------------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|---------------------------|-----|------|
|                            |              |                    |                     |                |                  | 10'                   | 1'                   |   | CRUISE<br>NO. | STATION<br>NUMBER                     |                       |                               | DIR.                            | HGT                  | PER                             |                                 |                                   |                           | SEA |      |
| 311269                     | CK           | 4346 N             | 04034 W             | 149            | 30               | MO                    | 12                   | 121                                       | 1968          | 019                                   | 011                   | 4764                          | 14                              | 31                   |                                 | 3                               | X1                                | 8                         | 4   | 0011 |
|                            |              |                    |                     | WATER          |                  | WIND                  |                      | BARO-<br>METER<br>(mb)                    | AIR TEMP. °C  |                                       | VIS.<br>CODE          | NO.<br>OBS.<br>DEPTH          | SPECIAL<br>OBSERVATIONS         |                      |                                 |                                 |                                   |                           |     |      |
|                            |              |                    |                     | COLOR<br>CODE  | TRANS.<br>UNIT   | DIR.                  | SPEED<br>OF<br>FORCE |   | DRY<br>BULB   | WET<br>BULB                           |                       |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              |                    |                     |                |                  |                       | 28                   | 520                                       | 240           | 100                                   | 072                   | 8                             | 14                              |                      |                                 |                                 |                                   |                           |     |      |
| MESSAGE<br>TIME<br>HR 1/10 | CAS<br>NO.   | CARD<br>TYPE       | DEPTH (m)           | T °C           | S ‰              | SIGMA-T               |                      | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> |               | Σ Δ σ<br>DTN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY     | O <sub>2</sub> ml/l           | PO <sub>2</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l | NO <sub>2</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | Si O <sub>2</sub> -S<br>μg - ml/l | pH                        |     |      |
|                            |              | STD                | 0000                | 1507           | 3607             | 2680                  |                      | 0012611                                   |               | 0000                                  | 15089                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | DBS                | 0000                | 1507           | 36066            | 2680                  |                      |   |               |                                       | 15089                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 0010                | 1508           | 3607             | 2679                  |                      | 0012645                                   |               | 0013                                  | 15091                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 0020                | 1508           | 3607             | 2680                  |                      | 0012670                                   |               | 0025                                  | 15093                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
| 121                        |              | DBS                | 0022                | 1508           | 36065            | 2680                  |                      |   |               |                                       | 15093                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 0030                | 1508           | 3607             | 2679                  |                      | 0012712                                   |               | 0038                                  | 15095                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
| 121                        |              | DBS                | 0040                | 1509           | 36065            | 2679                  |                      |   |               |                                       | 15096                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 0050                | 1509           | 3607             | 2679                  |                      | 0012779                                   |               | 0063                                  | 15098                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
| 121                        |              | DBS                | 0063                | 1508           | 36071            | 2680                  |                      |   |               |                                       | 15100                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 0075                | 1507           | 3607             | 2680                  |                      | 0012808                                   |               | 0095                                  | 15101                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
| 121                        |              | DBS                | 0081                | 1506           | 36070            | 2680                  |                      |   |               |                                       | 15102                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 0100                | 1508           | 3608             | 2680                  |                      | 0012872                                   |               | 0128                                  | 15106                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
| 121                        |              | DBS                | 0123                | 1510           | 36080            | 2680                  |                      |   |               |                                       | 15110                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 0125                | 1508           | 3608             | 2680                  |                      | 0012917                                   |               | 0160                                  | 15110                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 0150                | 1483           | 3604             | 2683                  |                      | 0012755                                   |               | 0192                                  | 15106                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
| 121                        |              | DBS                | 0166                | 1471           | 36018            | 2684                  |                      |   |               |                                       | 15104                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 0200                | 1461           | 3600             | 2685                  |                      | 0012715                                   |               | 0256                                  | 15107                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 0250                | 1446           | 3598             | 2686                  |                      | 0012716                                   |               | 0319                                  | 15110                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
| 121                        |              | DBS                | 0252                | 1445           | 35978            | 2686                  |                      |   |               |                                       | 15110                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 0300                | 1360           | 3579             | 2690                  |                      | 0012479                                   |               | 0382                                  | 15088                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
| 121                        |              | DBS                | 0338                | 1310           | 35674            | 2693                  |                      |   |               |                                       | 15076                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 0400                | 1291           | 3565             | 2696                  |                      | 0012107                                   |               | 0505                                  | 15080                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
| 121                        |              | DBS                | 0425                | 1257           | 35436            | 2699                  |                      |   |               |                                       | 15072                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 0500                | 1055           | 3530             | 2710                  |                      | 0010358                                   |               | 0620                                  | 15011                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
| 121                        |              | DBS                | 0508                | 1040           | 35266            | 2711                  |                      |   |               |                                       | 15005                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 0600                | 0842           | 3509             | 2730                  |                      | 0008361                                   |               | 0719                                  | 14945                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 0679                | 0711           | 35002            | 2743                  |                      |   |               |                                       | 14907                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 0700                | 0689           | 3500             | 2745                  |                      | 0007471                                   |               | 0801                                  | 14901                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 0800                | 0554           | 3500             | 2758                  |                      | 0006274                                   |               | 0870                                  | 14880                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
| 121                        |              | DBS                | 0862                | 0544           | 34997            | 2764                  |                      |   |               |                                       | 14870                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 0900                | 0535           | 3500             | 2765                  |                      | 0005640                                   |               | 0929                                  | 14873                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 1000                | 0511           | 3499             | 2768                  |                      | 0005474                                   |               | 0985                                  | 14880                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 1100                | 0488           | 3499             | 2770                  |                      | 0005309                                   |               | 1039                                  | 14887                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 1200                | 0464           | 3498             | 2772                  |                      | 0005141                                   |               | 1091                                  | 14894                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 1300                | 0440           | 3498             | 2775                  |                      | 0004960                                   |               | 1142                                  | 14901                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
|                            |              | STD                | 1400                | 0417           | 3497             | 2777                  |                      | 0004782                                   |               | 1190                                  | 14908                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |
| 121                        |              | DBS                | 1416                | 0413           | 34971            | 2777                  |                      |   |               |                                       | 14909                 |                               |                                 |                      |                                 |                                 |                                   |                           |     |      |







TABLE X.—Continued

| REFERENCE   |            | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MARS<br>SQUARE | STATION TIME<br>(GMT) |     |      | YEAR | ORIGINATOR'S |         | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPLE | WAVE<br>OBSERVATIONS |                   |     | WEA-<br>THER<br>CODE | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |      |
|-------------|------------|--------------|--------------------|---------------------|----------------|-----------------------|-----|------|------|--------------|---------|-----------------------|-------------------------------|----------------------|-------------------|-----|----------------------|----------------|---------------------------|------|
| CST<br>CODE | ID.<br>NO. |              |                    |                     |                | 10'                   | 1'  | MO   |      | DAY          | HR.1/10 |                       |                               | CRUISE<br>NO.        | STATION<br>NUMBER | DR. |                      |                |                           | HGT  |
| 311269      | CK         |              | 4348 N             | 04043 W             | 149 30         | 06 16                 | 000 | 1968 | 019  | 014          |         | 4682                  | 12                            | 26                   |                   |     | 3                    | X4             | 5, 8                      | 0014 |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |
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|             |            |              |                    |                     |                |                       |     |      |      |              |         |                       |                               |                      |                   |     |                      |                |                           |      |



TABLE X.—Continued

| REFERENCE<br>CITY<br>CODE NO. | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MARS DEN<br>SQUARE<br>10° 1' | STATION TIME<br>(GMT) |                | YEAR                           | ORIGINATOR'S  |                                       | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>S'AMPL'S | WAVE<br>OBSERVATIONS            |                      |                                 |                                 | WEA-<br>THER<br>CODE               | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |      |
|-------------------------------|--------------|--------------------|---------------------|------------------------------|-----------------------|----------------|--------------------------------|---------------|---------------------------------------|-----------------------|---------------------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|------------------------------------|----------------|---------------------------|------|
|                               |              |                    |                     |                              | 10° 1'                | MO DAY HR.1/10 |                                | CRUISE<br>NO. | STATION<br>NUMBER                     |                       |                                 | DIR                             | HGT                  | PER                             | SEA                             |                                    |                |                           |      |
| 311269                        | CK           | 4408 N             | 04057 W             | 145 40                       | 06 17                 | 123            | 1968                           | 019           | 016                                   | 4755                  | 16                              | 30                              |                      |                                 |                                 | 2                                  | X1             | 1 1                       | 0016 |
|                               |              |                    |                     |                              |                       |                |                                |               |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               |              |                    |                     | WATER                        | WIND                  | BARO-<br>METER | AIR TEMP. °C                   |               | VIL<br>CODE                           | NO.<br>OBS.<br>DEPTHS | SPECIAL<br>OBSERVATIONS         |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               |              |                    |                     | COLOR<br>CODE                | TRANS-<br>MIT         | DIR.           | SPED<br>OF<br>FORCE            | DRY<br>BULB   |                                       |                       |                                 |                                 | WET<br>BULB          |                                 |                                 |                                    |                |                           |      |
|                               |              |                    |                     | 25                           | 516                   | 244            | 144                            | 139           | 8                                     | 14                    |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
| MESSAGE<br>TIME<br>HR 1/10    | CARD<br>NO.  | CARD<br>TYPE       | DEPTH<br>m          | T °C                         | S ‰                   | SIGMA-T        | SPECIFIC VOLUME<br>ANDALTY-337 |               | S Δ D<br>DYN. M.<br>± 10 <sup>3</sup> | SOUND<br>VELOCITY     | O <sub>2</sub> ml/l             | PO <sub>2</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | Si O <sub>4</sub> -Si<br>μg - ml/l | pH             | S<br>°C                   |      |
| 123                           | STO          | 0000               | 1539                | 3609                         | 2674                  | 0013137        | 0000                           | 15100         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | 085          | 0000               | 1539                | 36087                        | 2674                  |                |                                | 15100         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 0010               | 1535                | 3609                         | 2675                  | 0013076        | 0013                           | 15100         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 0020               | 1531                | 3609                         | 2676                  | 0013014        | 0026                           | 15100         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
| 123                           | 085          | 0027               | 1528                | 36090                        | 2677                  |                |                                | 15101         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 0030               | 1527                | 3609                         | 2677                  | 0012943        | 0039                           | 15101         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 0050               | 1517                | 3609                         | 2679                  | 0012792        | 0065                           | 15101         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
| 123                           | 085          | 0051               | 1516                | 36086                        | 2679                  |                |                                | 15101         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 0075               | 1516                | 3609                         | 2679                  | 0012881        | 0097                           | 15105         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
| 123                           | 085          | 0086               | 1513                | 36088                        | 2680                  |                |                                | 15105         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 0100               | 1508                | 3608                         | 2680                  | 0012840        | 0129                           | 15106         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
| 123                           | 085          | 0101               | 1507                | 36076                        | 2680                  |                |                                | 15106         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 0125               | 1483                | 3603                         | 2682                  | 0012752        | 0161                           | 15102         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 0150               | 1463                | 3599                         | 2683                  | 0012700        | 0193                           | 15099         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | 123          | 085                | 0153                | 1461                         | 35986                 | 2683           |                                | 15099         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 0200               | 1437                | 3594                         | 2685                  | 0012673        | 0256                           | 15098         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | 123          | 085                | T0205               | 1434                         | 35933                 | 2685           |                                | 15098         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 0250               | 1383                | 3584                         | 2689                  | 0012439        | 0319                           | 15088         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 0300               | 1334                | 3576                         | 2693                  | 0012176        | 0381                           | 15079         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
| 123                           | 085          | 0310               | 1325                | 35743                        | 2694                  |                |                                | 15077         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 0400               | 1271                | 3565                         | 2697                  | 0012006        | 0502                           | 15073         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
| 123                           | 085          | T0416              | 1250                | 35616                        | 2699                  |                |                                | 15068         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 0500               | 1065                | 3533                         | 2711                  | 0010745        | 0615                           | 15014         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
| 123                           | 085          | 0524               | 1018                | 35272                        | 2715                  |                |                                | 15000         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 0600               | 0891                | 3513                         | 2725                  | 0009455        | 0716                           | 14964         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
| 123                           | 085          | 0632               | 0842                | 35085                        | 2730                  |                |                                | 14950         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 0700               | 0737                | 3506                         | 2743                  | 0007738        | 0802                           | 14921         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 0800               | 0615                | 3502                         | 2757                  | 0006418        | 0873                           | 14889         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | 123          | 085                | 0846                | 0572                         | 35008                 | 2762           |                                | 14879         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 0900               | 0544                | 3500                         | 2764                  | 0005723        | 0934                           | 14877         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 1000               | 0499                | 3499                         | 2769                  | 0005317        | 0989                           | 14875         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
| 123                           | 085          | T1057              | 0476                | 34988                        | 2771                  |                |                                | 14875         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 1100               | 0469                | 3498                         | 2772                  | 0005107        | 1041                           | 14879         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 1200               | 0453                | 3497                         | 2773                  | 0005073        | 1092                           | 14889         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 1300               | 0437                | 3497                         | 2774                  | 0004961        | 1142                           | 14899         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 1400               | 0420                | 3496                         | 2775                  | 0004916        | 1192                           | 14909         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 1500               | 0404                | 3495                         | 2776                  | 0004868        | 1240                           | 14919         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
| 123                           | 085          | T1599              | 0388                | 34941                        | 2777                  |                |                                | 14929         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |

| REFERENCE<br>CITY<br>CODE NO. | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MARS DEN<br>SQUARE<br>10° 1' | STATION TIME<br>(GMT) |                | YEAR                           | ORIGINATOR'S  |                                       | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>S'AMPL'S | WAVE<br>OBSERVATIONS            |                      |                                 |                                 | WEA-<br>THER<br>CODE               | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |      |
|-------------------------------|--------------|--------------------|---------------------|------------------------------|-----------------------|----------------|--------------------------------|---------------|---------------------------------------|-----------------------|---------------------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|------------------------------------|----------------|---------------------------|------|
|                               |              |                    |                     |                              | 10° 1'                | MO DAY HR.1/10 |                                | CRUISE<br>NO. | STATION<br>NUMBER                     |                       |                                 | DIR                             | HGT                  | PER                             | SEA                             |                                    |                |                           |      |
| 311269                        | CK           | 4405 N             | 04048 W             | 145 40                       | 06 18                 | 123            | 1968                           | 019           | 017                                   | 4709                  | 15                              | 24                              |                      |                                 |                                 | 2                                  | X2             | 2 8                       | 0017 |
|                               |              |                    |                     |                              |                       |                |                                |               |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               |              |                    |                     | WATER                        | WIND                  | BARO-<br>METER | AIR TEMP. °C                   |               | VIL<br>CODE                           | NO.<br>OBS.<br>DEPTHS | SPECIAL<br>OBSERVATIONS         |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               |              |                    |                     | COLOR<br>CODE                | TRANS-<br>MIT         | DIR.           | SPED<br>OF<br>FORCE            | DRY<br>BULB   |                                       |                       |                                 |                                 | WET<br>BULB          |                                 |                                 |                                    |                |                           |      |
|                               |              |                    |                     | 25                           | 507                   | 291            | 156                            | 150           | 7                                     | 14                    |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
| MESSAGE<br>TIME<br>HR 1/10    | CARD<br>NO.  | CARD<br>TYPE       | DEPTH<br>m          | T °C                         | S ‰                   | SIGMA-T        | SPECIFIC VOLUME<br>ANDALTY-337 |               | S Δ D<br>DYN. M.<br>± 10 <sup>3</sup> | SOUND<br>VELOCITY     | O <sub>2</sub> ml/l             | PO <sub>2</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | Si O <sub>4</sub> -Si<br>μg - ml/l | pH             | S<br>°C                   |      |
| 123                           | STO          | 0000               | 1586                | 3605                         | 2660                  | 0014450        | 0000                           | 15114         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | 085          | 0000               | 1586                | 36046                        | 2660                  |                |                                | 15114         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 0010               | 1568                | 3605                         | 2665                  | 0014033        | 0014                           | 15110         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 0020               | 1553                | 3606                         | 2669                  | 0013683        | 0028                           | 15107         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
| 123                           | 085          | 0027               | 1544                | 36067                        | 2671                  |                |                                | 15105         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 0030               | 1542                | 3606                         | 2671                  | 0013493        | 0042                           | 15105         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 0050               | 1524                | 3602                         | 2672                  | 0013462        | 0069                           | 15102         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
| 123                           | 085          | 0052               | 1522                | 36012                        | 2672                  |                |                                | 15102         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 0075               | 1493                | 3557                         | 2675                  | 0013277        | 0102                           | 15096         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
| 123                           | 085          | 0078               | 1491                | 35960                        | 2675                  |                |                                | 15096         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 0100               | 1485                | 3596                         | 2676                  | 0013229        | 0135                           | 15097         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
| 123                           | 085          | 0104               | 1484                | 35955                        | 2676                  |                |                                | 15098         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 0125               | 1486                | 3597                         | 2676                  | 0013281        | 0168                           | 15102         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 0150               | 1488                | 3598                         | 2677                  | 0013317        | 0202                           | 15107         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | 123          | 085                | 0156                | 1488                         | 35979                 | 2677           |                                | 15108         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 0200               | 1486                | 3600                         | 2679                  | 0013284        | 0268                           | 15115         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | 123          | 085                | T0206               | 1483                         | 35999                 | 2680           |                                | 15115         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 0250               | 1431                | 3588                         | 2682                  | 0013133        | 0334                           | 15104         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 0300               | 1364                | 3574                         | 2685                  | 0012924        | 0399                           | 15088         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
| 123                           | 085          | 0309               | 1351                | 35718                        | 2686                  |                |                                | 15085         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 0400               | 1204                | 3548                         | 2697                  | 0011959        | 0524                           | 15048         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
| 123                           | 085          | T0410              | 1189                | 35462                        | 2699                  |                |                                | 15044         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 0500               | 1069                | 3534                         | 2711                  | 0010743        | 0637                           | 15015         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
| 123                           | 085          | 0511               | 1052                | 35319                        | 2713                  |                |                                | 15011         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 0600               | 0899                | 3517                         | 2729                  | 0009129        | 0737                           | 14964         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
| 123                           | 085          | T0608              | 0875                | 35162                        | 2730                  |                |                                | 14960         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 0700               | 0712                | 3505                         | 2746                  | 0007440        | 0819                           | 14911         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 0800               | 0582                | 3497                         | 2757                  | 0006330        | 0888                           | 14875         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | 123          | 085                | 0813                | 0569                         | 34955                 | 2758           |                                | 14872         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 0900               | 0523                | 3496                         | 2764                  | 0005723        | 0949                           | 14868         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 1000               | 0478                | 3497                         | 2769                  | 0005226        | 1003                           | 14866         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
| 123                           | 085          | T1020              | 0470                | 34966                        | 2770                  |                |                                | 14866         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 1100               | 0457                | 3496                         | 2771                  | 0005094        | 1055                           | 14874         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 1200               | 0441                | 3496                         | 2773                  | 0005027        | 1105                           | 14884         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 1300               | 0426                | 3495                         | 2774                  | 0004962        | 1155                           | 14894         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 1400               | 0410                | 3494                         | 2775                  | 0004894        | 1205                           | 14904         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
|                               | STO          | 1500               | 0394                | 3494                         | 2776                  | 0004819        | 1253                           | 14914         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |
| 123                           | 085          | T1549              | 0386                | 34935                        | 2777                  |                |                                | 14919         |                                       |                       |                                 |                                 |                      |                                 |                                 |                                    |                |                           |      |



TABLE X.—Continued

| REFERENCE<br>CIRCUIT<br>NO.      | SHIP<br>CODE | LATITUDE<br>° '"/10 | LONGITUDE<br>° '"/10 | OBS. NO.   | WAVEGEN<br>SQUARE | STATION TIME<br>(GMT) |                     | YEAR                                   | ORIGINATOR'S |                                      | DEPTH<br>TO<br>BOTTOM | MAR.<br>DEPTH<br>OF<br>SAMPLE | WAVE<br>OBSERVATIONS |                     |                                      |                           | WEA-<br>THER<br>CODE                 | CLOUD<br>CODES                       | NODC<br>STATION<br>NUMBER              |      |      |
|----------------------------------|--------------|---------------------|----------------------|------------|-------------------|-----------------------|---------------------|--|--------------|--------------------------------------|-----------------------|-------------------------------|----------------------|---------------------|--------------------------------------|---------------------------|--------------------------------------|--------------------------------------|--|------|------|
|                                  |              |                     |                      |            |                   | 10'                   | 1"                  |  | MD           | DAY                                  |                       |                               | HR                   | 1/10                | CRUISE<br>NO.                        | STATION<br>NUMBER         |                                      |                                      |  | DIR. | HGT. |
| 311269                           | CK           | 4345 N              | 04130 W              |            | 149               | 31                    | 06 19 126           | 1968                                   | 019          | 018                                  | 4663                  | 15                            | 26                   |                     |                                      | 2                         | X1                                   | 3 7                                  |  | 0018 |      |
|                                  |              |                     |                      |            |                   |                       |                     |  |              |                                      |                       |                               |                      |                     |                                      |                           |                                      |                                      |  |      |      |
|                                  |              |                     |                      | WATER      |                   | WIND                  |                     | BARO-<br>METER                         |              | AIR TEMP. °C                         |                       | VIS. CODE                     |                      | NO. DEPTHS          |                                      | SPECIAL OBSERVATIONS      |                                      |                                      |  |      |      |
|                                  |              |                     |                      | COLOR CODE | TRANS. DIR.       | DIR.                  | SPED OR FORCE (mph) |  | DRY RULE     | WET RULE                             |                       |                               |                      |                     |                                      |                           |                                      |                                      |  |      |      |
|                                  |              |                     |                      |            |                   | 27                    | 507                 | 264                                    | 183          | 178                                  | 7                     | 14                            |                      |                     |                                      |                           |                                      |                                      |  |      |      |
| MESSENGER<br>TIME OF<br>NR. 1/10 | CARD<br>NO.  | CARD<br>TYPE        | DEPTH (m)            | T °C       | S ‰               | SIGMA-T               |                     | SPECIFIC VOLUME<br>ANOMALY— $\sigma_t$ |              | $\Sigma \Delta O$<br>DTN. M.<br>1/10 |                       | SOUND<br>VELOCITY             |                      | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>$\mu g - ml/l$ | TOTAL-P<br>$\mu g - ml/l$ | NO <sub>3</sub> -N<br>$\mu g - ml/l$ | NO <sub>2</sub> -N<br>$\mu g - ml/l$ | SiO <sub>2</sub> -Si<br>$\mu g - ml/l$ | pH   |      |
| 126                              | STD          | 0000                |                      | 15930      | 3589              | 26460                 |                     |  |              |                                      |                       |                               |                      |                     |                                      |                           |                                      |                                      |  |      |      |
|                                  | OBS          | 0000                |                      |            | 35885             |                       |                     |  |              |                                      |                       |                               |                      |                     |                                      |                           |                                      |                                      |  |      |      |
|                                  | STD          | 0010                |                      |            | 3589              |                       |                     |  |              |                                      |                       |                               |                      |                     |                                      |                           |                                      |                                      |  |      |      |
|                                  | STD          | 0020                |                      |            | 3590              |                       |                     |  |              |                                      |                       |                               |                      |                     |                                      |                           |                                      |                                      |  |      |      |
| 126                              | OBS          | 0025                |                      | 1485       | 35904             | 2672                  |                     |  |              |                                      |                       | 15084                         |                      |                     |                                      |                           |                                      |                                      |  |      |      |
|                                  | STD          | 0030                |                      | 1485       | 3591              | 2672                  |                     | 0013380                                |              |                                      |                       | 15085                         |                      |                     |                                      |                           |                                      |                                      |  |      |      |
|                                  | STD          | 0050                |                      | 1484       | 3592              | 2674                  |                     | 0013318                                |              |                                      |                       | 15088                         |                      |                     |                                      |                           |                                      |                                      |  |      |      |
| 126                              | OBS          | 0050                |                      | 1484       | 35924             | 2674                  |                     |  |              |                                      |                       | 15088                         |                      |                     |                                      |                           |                                      |                                      |  |      |      |
|                                  | STD          | 0075                |                      | 1483       | 3594              | 2675                  |                     | 0013293                                |              |                                      |                       | 15092                         |                      |                     |                                      |                           |                                      |                                      |  |      |      |
| 126                              | OBS          | 0075                |                      | 1483       | 35935             | 2675                  |                     |  |              |                                      |                       | 15092                         |                      |                     |                                      |                           |                                      |                                      |  |      |      |
|                                  | STD          | 0100                |                      | 1485       | 3596              | 2676                  |                     | 0013214                                |              |                                      |                       | 15097                         |                      |                     |                                      |                           |                                      |                                      |  |      |      |
| 126                              | OBS          | 0100                |                      | 1485       | 35962             | 2676                  |                     |  |              |                                      |                       | 15097                         |                      |                     |                                      |                           |                                      |                                      |  |      |      |
|                                  | STD          | 0125                |                      | 1451       | 3599              | 2677                  |                     | 0013213                                |              |                                      |                       | 15104                         |                      |                     |                                      |                           |                                      |                                      |  |      |      |
| 126                              | OBS          | 0149                |                      | 1492       | 36008             | 2678                  |                     |  |              |                                      |                       | 15108                         |                      |                     |                                      |                           |                                      |                                      |  |      |      |
|                                  | STD          | 0150                |                      | 1492       | 3601              | 2678                  |                     | 0013179                                |              |                                      |                       | 15108                         |                      |                     |                                      |                           |                                      |                                      |  |      |      |
| 126                              | OBS          | 0199                |                      | 1477       | 35987             | 2680                  |                     |  |              |                                      |                       | 15111                         |                      |                     |                                      |                           |                                      |                                      |  |      |      |
|                                  | STD          | 0200                |                      | 1477       | 3599              | 2680                  |                     | 0013174                                |              |                                      |                       | 15111                         |                      |                     |                                      |                           |                                      |                                      |  |      |      |
|                                  | STD          | 0250                |                      | 1472       | 3595              | 2679                  |                     | 0013459                                |              |                                      |                       | 15118                         |                      |                     |                                      |                           |                                      |                                      |  |      |      |
| 126                              | OBS          | 0299                |                      | 1439       | 35921             | 2683                  |                     |  |              |                                      |                       | 15115                         |                      |                     |                                      |                           |                                      |                                      |  |      |      |
|                                  | STD          | 0300                |                      | 1438       | 3592              | 2683                  |                     | 0013134                                |              |                                      |                       | 15115                         |                      |                     |                                      |                           |                                      |                                      |  |      |      |
| 126                              | OBS          | 0399                |                      | 1287       | 35617             | 2691                  |                     |  |              |                                      |                       | 15077                         |                      |                     |                                      |                           |                                      |                                      |  |      |      |
|                                  | STD          | 0400                |                      | 1286       | 3562              | 2692                  |                     | 0012555                                |              |                                      |                       | 15077                         |                      |                     |                                      |                           |                                      |                                      |  |      |      |
| 126                              | OBS          | 0495                |                      | 1136       | 35423             | 2706                  |                     |  |              |                                      |                       | 15039                         |                      |                     |                                      |                           |                                      |                                      |  |      |      |
|                                  | STD          | 0500                |                      | 1125       | 3541              | 2707                  |                     | 0011244                                |              |                                      |                       | 15036                         |                      |                     |                                      |                           |                                      |                                      |  |      |      |
| 126                              | OBS          | 0592                |                      | 0939       | 35212             | 2724                  |                     |  |              |                                      |                       | 14981                         |                      |                     |                                      |                           |                                      |                                      |  |      |      |
|                                  | STD          | 0600                |                      | 0926       | 3520              | 2725                  |                     | 0009518                                |              |                                      |                       | 14978                         |                      |                     |                                      |                           |                                      |                                      |  |      |      |
|                                  | STD          | 0700                |                      | 0772       | 3509              | 2741                  |                     | 0008048                                |              |                                      |                       | 14935                         |                      |                     |                                      |                           |                                      |                                      |  |      |      |
| 126                              | OBS          | 0792                |                      | 0644       | 35015             | 2753                  |                     |  |              |                                      |                       | 14899                         |                      |                     |                                      |                           |                                      |                                      |  |      |      |
|                                  | STD          | 0800                |                      | 0632       | 3501              | 2754                  |                     | 0006730                                |              |                                      |                       | 14896                         |                      |                     |                                      |                           |                                      |                                      |  |      |      |
|                                  | STD          | 0900                |                      | 0505       | 3497              | 2767                  |                     | 0005428                                |              |                                      |                       | 14860                         |                      |                     |                                      |                           |                                      |                                      |  |      |      |
| 126                              | OBS          | 0993                |                      | 0414       | 34945             | 2775                  |                     |  |              |                                      |                       | 14838                         |                      |                     |                                      |                           |                                      |                                      |  |      |      |
|                                  | STD          | 1000                |                      | 0414       | 3495              | 2775                  |                     | 0004559                                |              |                                      |                       | 14839                         |                      |                     |                                      |                           |                                      |                                      |  |      |      |
|                                  | STD          | 1100                |                      | 0408       | 3494              | 2775                  |                     | 0004594                                |              |                                      |                       | 14853                         |                      |                     |                                      |                           |                                      |                                      |  |      |      |
|                                  | STD          | 1200                |                      | 0403       | 3494              | 2776                  |                     | 0004625                                |              |                                      |                       | 14868                         |                      |                     |                                      |                           |                                      |                                      |  |      |      |
|                                  | STD          | 1300                |                      | 0397       | 3494              | 2776                  |                     | 0004653                                |              |                                      |                       | 14882                         |                      |                     |                                      |                           |                                      |                                      |  |      |      |
|                                  | STD          | 1400                |                      | 0392       | 3494              | 2777                  |                     | 0004679                                |              |                                      |                       | 14897                         |                      |                     |                                      |                           |                                      |                                      |  |      |      |
| 126                              | OBS          | 1499                |                      | 0386       | 34940             | 2777                  |                     |  |              |                                      |                       | 14911                         |                      |                     |                                      |                           |                                      |                                      |  |      |      |



TABLE XI.—Observed and interpolated oceanographic data for stations taken by USCGC HAMILTON at Ocean Station DELTA, 6 July–9 July 1968, prepared from NODC listing No. 31–8042 HT.

| REFERENCE<br>CITY<br>CODE   | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | HARPOON<br>SQUARE | STATION TIME<br>(GMT) |         |   | YEAR                                  | ORIGINATOR'S      |                     | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLE | WAVE<br>OBSERVATIONS            |                                 |                                   | WIA-<br>THER<br>CODE | CLOUD<br>CODES |      | NODC<br>STATION<br>NUMBER |      |
|-----------------------------|--------------|--------------------|---------------------|-------------------|-----------------------|---------|---|---------------------------------------|-------------------|---------------------|---------------------------------|-------------------------------|---------------------------------|---------------------------------|-----------------------------------|----------------------|----------------|------|---------------------------|------|
|                             |              |                    |                     |                   | MARSDEN               |         |   |                                       | CAUSE<br>NO.      | STATION<br>NUMBER   |                                 |                               | DIR.                            | HGT.                            | PER.                              |                      | SEA            | TYPE |                           | AMT. |
|                             |              |                    |                     |                   | 10°                   | 1°      | MO DAY HR.1/10                            |                                       |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
| 318042                      | HT           | 4322 N             | 04028 W             | 149 30            | 07 06 120             | 1968    | 020                                       | 001                                   | 4682              | 15                  | 00                              |                               | 0                               | X2                              | 0 3                               |                      |                | 0001 |                           |      |
|                             |              |                    |                     |                   |                       |         |   |                                       |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
| WATER                       |              |                    |                     |                   | WIND                  |         |   | BARO-<br>METER                        |                   | AIR TEMP. °C        |                                 | VIS.<br>COG.                  | NO.<br>OBS.<br>DEPTH            | SPECIAL<br>OBSERVATIONS         |                                   |                      |                |      |                           |      |
| COLOR<br>CODE               |              |                    |                     |                   | TRANS.                | DIR.    | SPEED<br>OF<br>FORCE                      |                                       |                   | DRY<br>BULB         | WET<br>BULB                     |                               |                                 |                                 |                                   |                      |                |      |                           |      |
| OT                          |              |                    |                     |                   | SO                    | 30      | 502                                       | 183                                   | 144               | 133                 | 7                               | 39                            |                                 |                                 |                                   |                      |                |      |                           |      |
| MESSAGE<br>TIME<br>HR. 1/10 | CAST<br>NO.  | CARD<br>TYPE       | DEPTH (m)           | T °C              | S ‰                   | SIGMA-T | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> | Σ Δ D<br>DTN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l          | NO <sub>2</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH                   | SCT            |      |                           |      |
|                             |              |                    |                     |                   |                       |         |   |                                       |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
| 120                         | STO          | 0000               | 1553                | 3547              | 2623                  | 0017940 | 0000                                      | 15096                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | OBS          | 0000               | 1553                | 35470             | 2623                  |         |   | 15096                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
| 006                         | STO          | 0010               | 1553                | 3547              | 2623                  | 0017964 | 0018                                      | 15098                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | OBS          | 0010               | 1553                | 35471             | 2623                  |         |   | 15098                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | STO          | 0020               | 1561                | 3562              | 2633                  | 0017101 | 0035                                      | 15104                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | OBS          | 0020               | 1561                | 35617             | 2633                  |         |   | 15104                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | STO          | 0030               | 1576                | 3582              | 2645                  | 0015958 | 0052                                      | 15113                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | OBS          | 0030               | 1576                | 35817             | 2645                  |         |   | 15113                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | STO          | 0050               | 1581                | 3608              | 2664                  | 0014275 | 0082                                      | 15121                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | OBS          | 0050               | 1581                | 36077             | 2664                  |         |   | 15121                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | STO          | 0075               | 1581                | 3610              | 2665                  | 0014209 | 0118                                      | 15125                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | OBS          | 0075               | 1581                | 36097             | 2665                  |         |   | 15125                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | STO          | 0100               | 1569                | 3612              | 2669                  | 0013881 | 0153                                      | 15126                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | OBS          | 0100               | 1569                | 36117             | 2669                  |         |   | 15126                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | STO          | 0125               | 1557                | 3614              | 2674                  | 0013554 | 0187                                      | 15126                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | OBS          | 0125               | 1557                | 36137             | 2674                  |         |   | 15126                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | STO          | 0150               | 1551                | 3613              | 2674                  | 0013575 | 0221                                      | 15128                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | OBS          | 0150               | 1551                | 36127             | 2674                  |         |   | 15128                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | STO          | 0200               | 1540                | 3613              | 2677                  | 0013472 | 0289                                      | 15133                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | OBS          | 0200               | 1540                | 36130             | 2677                  |         |   | 15133                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | STO          | 0250               | 1514                | 3606              | 2677                  | 0013597 | 0357                                      | 15132                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | OBS          | 0250               | 1514                | 36057             | 2677                  |         |   | 15132                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | STO          | 0300               | 1439                | 3588              | 2680                  | 0013468 | 0424                                      | 15114                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | OBS          | 0300               | 1439                | 35877             | 2680                  |         |   | 15114                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | STO          | 0330               | 1401                | 35817             | 2683                  |         |   | 15106                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | OBS          | 0330               | 1401                | 35817             | 2683                  |         |   | 15106                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | STO          | 0340               | 1363                | 35717             | 2684                  |         |   | 15094                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | OBS          | 0340               | 1363                | 35717             | 2684                  |         |   | 15094                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | STO          | 0350               | 1365                | 35797             | 2689                  |         |   | 15098                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | OBS          | 0350               | 1365                | 35797             | 2689                  |         |   | 15098                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | STO          | 0400               | 1320                | 3568              | 2689                  | 0012777 | 0555                                      | 15089                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | OBS          | 0400               | 1320                | 35677             | 2689                  |         |   | 15089                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | STO          | 0450               | 1225                | 35577             | 2701                  |         |   | 15064                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | OBS          | 0450               | 1225                | 35577             | 2701                  |         |   | 15064                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | STO          | 0500               | 1157                | 3543              | 2702                  | 0011675 | 0678                                      | 15047                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | OBS          | 0500               | 1157                | 35432             | 2702                  |         |   | 15047                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | STO          | 0550               | 1061                | 35317             | 2711                  |         |   | 15020                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | OBS          | 0550               | 1061                | 35317             | 2711                  |         |   | 15020                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | STO          | 0600               | 0951                | 3517              | 2718                  | 0010179 | 0787                                      | 14987                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | OBS          | 0600               | 0951                | 35167             | 2718                  |         |   | 14987                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | STO          | 0650               | 0845                | 35097             | 2730                  |         |   | 14955                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | OBS          | 0650               | 0845                | 35097             | 2730                  |         |   | 14955                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | STO          | 0700               | 0781                | 3506              | 2737                  | 0008429 | 0880                                      | 14938                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | OBS          | 0700               | 0781                | 35057             | 2737                  |         |   | 14938                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | STO          | 0750               | 0696                | 34977             | 2743                  |         |   | 14912                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | OBS          | 0750               | 0696                | 34977             | 2743                  |         |   | 14912                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | STO          | 0775               | 0641                | 34957             | 2749                  |         |   | 14894                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | OBS          | 0775               | 0641                | 34957             | 2749                  |         |   | 14894                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | STO          | 0750               | 0620                | 34957             | 2751                  |         |   | 14888                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | OBS          | 0750               | 0620                | 34957             | 2751                  |         |   | 14888                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | STO          | 0800               | 0645                | 3505              | 2755                  | 0006643 | 0955                                      | 14901                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | OBS          | 0800               | 0645                | 35047             | 2755                  |         |   | 14901                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | STO          | 0820               | 0642                | 35027             | 2754                  |         |   | 14903                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | OBS          | 0820               | 0642                | 35027             | 2754                  |         |   | 14903                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | STO          | 0840               | 0601                | 35017             | 2759                  |         |   | 14890                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | OBS          | 0840               | 0601                | 35017             | 2759                  |         |   | 14890                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | STO          | 0855               | 0581                | 35001             | 2760                  |         |   | 14884                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | OBS          | 0855               | 0581                | 35001             | 2760                  |         |   | 14884                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | STO          | 0900               | 0581                | 3502              | 2761                  | 0006103 | 1019                                      | 14892                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | OBS          | 0900               | 0581                | 35017             | 2761                  |         |   | 14892                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | STO          | 0920               | 0543                | 34997             | 2764                  |         |   | 14880                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | OBS          | 0920               | 0543                | 34997             | 2764                  |         |   | 14880                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | STO          | 0960               | 0543                | 35001             | 2765                  |         |   | 14886                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | OBS          | 0960               | 0543                | 35001             | 2765                  |         |   | 14886                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | STO          | 1000               | 0519                | 3501              | 2768                  | 0005458 | 1077                                      | 14883                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | OBS          | 1000               | 0519                | 35007             | 2768                  |         |   | 14883                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | STO          | 1100               | 0484                | 3500              | 2771                  | 0005179 | 1130                                      | 14886                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | OBS          | 1100               | 0484                | 34997             | 2771                  |         |   | 14886                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | STO          | 1200               | 0459                | 3500              | 2774                  | 0004956 | 1181                                      | 14892                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | OBS          | 1200               | 0459                | 34997             | 2774                  |         |   | 14892                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | STO          | 1300               | 0459                | 3500              | 2774                  | 0005061 | 1231                                      | 14909                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | OBS          | 1300               | 0459                | 34997             | 2774                  |         |   | 14909                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | STO          | 1400               | 0433                | 3497              | 2775                  | 0005034 | 1281                                      | 14914                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | OBS          | 1400               | 0433                | 34967             | 2775                  |         |   | 14914                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | STO          | 1500               | 0419                | 3496              | 2775                  | 0005015 | 1332                                      | 14925                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |
|                             | OBS          | 1500               | 0419                | 34957             | 2775                  |         |   | 14925                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |      |                           |      |



TABLE XI.—Continued

[illegible]



TABLE XI.—Continued

| REFERENCE                  |             | SHIP<br>CODE | LATITUDE<br>° 10' | LONGITUDE<br>° 10' | MARSDEN<br>SQUARE<br>NO. | STATION TIME<br>(GMT) |                               |                                       | YEAR              | ORIGINATOR'S        |                                 | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPLE   | WAVE<br>OBSERVATIONS            |                                   |                   | WEA-<br>THER<br>CODE | CLOUD<br>CODES<br>TYPE (amt) | WDDC<br>STATION<br>NUMBER |     |
|----------------------------|-------------|--------------|-------------------|--------------------|--------------------------|-----------------------|-------------------------------|---------------------------------------|-------------------|---------------------|---------------------------------|-----------------------|---------------------------------|---------------------------------|-----------------------------------|-------------------|----------------------|------------------------------|---------------------------|-----|
| CTRY<br>CODE               | ID.<br>NO.  |              |                   |                    |                          | 10'                   | 1'                            | MO                                    |                   | DAY                 | HR.                             |                       |                                 | 1/10                            | CRUISE<br>NO.                     | STATION<br>NUMBER |                      |                              |                           | DIR |
| 318042                     | HT          |              | 4417 N            | 04102 W            | 149                      | 41                    | 07                            | 06 238                                | 1968              | D20                 | 003                             | 4572                  | 15                              | 00                              |                                   | 0                 | X2                   | 0 3                          | 0003                      |     |
|                            |             |              |                   | WATER              |                          | WIND                  |                               | AIR TEMP. °C                          |                   | VIL                 |                                 | NO. OBS DEPTHS        |                                 | SPECIAL OBSERVATIONS            |                                   |                   |                      |                              |                           |     |
|                            |             |              |                   | COLOR<br>CODE      | TRANS-<br>MIT            | DIR.                  | SPEED<br>OR<br>FORCE          | BARD-<br>METER<br>(mm)                | DRY<br>BULB       | WET<br>BULB         | CODE                            |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             |              |                   | DT                 | SD                       | 05                    | 503                           | 274                                   | 139               | 128                 | 7                               | 59                    |                                 |                                 |                                   |                   |                      |                              |                           |     |
| MISSION<br>TIME<br>NR 1/10 | CAST<br>NO. | CARD<br>TYPE | DEPTH (m)         | T °C               | S ‰                      | SIGMA-T               | SPECIFIC VOLUME<br>ANOMALY-20 | Σ Δ D<br>DYN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l  | NO <sub>2</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH                | S<br>C               |                              |                           |     |
| 238                        |             | STD          | 0000              | 12.61              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0000              | 12.61              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0005              | 12.01              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | STD          | 0010              | 16.36              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
| 006                        |             | OBS          | 0010              | 16.36              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | STD          | 0020              | 16.33              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0020              | 16.33              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | STD          | 0030              | 16.31              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0030              | 16.31              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0040              | 16.23              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | STD          | 0050              | 16.04              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0050              | 16.04              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0060              | 16.01              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | STD          | 0075              | 15.71              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0075              | 15.71              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | STD          | 0100              | 15.41              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0100              | 15.41              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | STD          | 0125              | 15.36              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0125              | 15.36              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | STD          | 0150              | 15.21              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0150              | 15.21              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0180              | 15.05              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | STD          | 0200              | 14.81              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0200              | 14.81              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0230              | 14.55              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0240              | 14.55              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | STD          | 0250              | 14.29              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0250              | 14.29              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0260              | 14.20              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0280              | 13.63              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | STD          | 0300              | 13.33              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0300              | 13.33              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0320              | 13.21              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0340              | 12.65              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0350              | 13.21              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0360              | 13.21              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0390              | 12.51              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | STD          | 0400              | 12.51              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0400              | 12.51              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0410              | 12.19              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0420              | 12.19              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0440              | 11.61              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0450              | 11.30              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0490              | 10.39              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | STD          | 0500              | 10.21              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0500              | 10.21              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0515              | 10.20              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0540              | 09.81              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0555              | 09.21              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0560              | 08.84              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0575              | 08.84              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0580              | 09.11              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | STD          | 0600              | 08.81              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0600              | 08.81              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0625              | 08.21              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0650              | 07.81              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0660              | 05.77              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | STD          | 0700              | 06.09              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0700              | 06.09              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0720              | 06.11              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0740              | 05.43              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0750              | 04.39              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 1760              | 05.61              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 1770              | 05.73              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | STD          | 1800              | 05.77              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0800              | 05.77              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0830              | 05.61              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0840              | 05.22              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0860              | 05.02              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | STD          | 0900              | 04.99              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 0900              | 04.99              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | STD          | 1000              | 04.71              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 1000              | 04.71              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | STD          | 1100              | 04.51              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 1100              | 04.51              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | STD          | 1200              | 04.33              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 1200              | 04.33              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | STD          | 1300              | 04.15              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 1300              | 04.15              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | STD          | 1400              | 04.01              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 1400              | 04.01              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | STD          | 1509              | 03.99              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |
|                            |             | OBS          | 1500              | 03.99              |                          |                       |                               |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                              |                           |     |



TABLE XI.—Continued

| REFERENCE |      | SHIP | LATITUDE | LONGITUDE | MAGNETIC | STATION TIME |                 |         | YEAR     | ORIGINATOR'S   |                    | DEPTH     | MAX.               | WAVE               |                      |     | WEA- | CLOUD | NDDC    |
|-----------|------|------|----------|-----------|----------|--------------|-----------------|---------|----------|----------------|--------------------|-----------|--------------------|--------------------|----------------------|-----|------|-------|---------|
| CRIP      | ID.  | CODE | "        | "         | SQUARE   | 10"          | 1'              | MO.     | DAY      | HR.            | STATION            | TO        | DEPTH              | DR.                | HGT                  | PER | THER | FRQ.  | STATION |
| CODE      | NO.  |      | 1/10     | 1/10      |          |              |                 |         |          |                | NUMBER             | BOTTOM    | DI                 |                    |                      |     | CODE | AMT   | NUMBER  |
| 318042    |      | HT   | 4402 N   | 04103 W   | 149      | 41           | 07              | 07      | 050      | 1968           | 020 004            | 4663      | 15                 | 00                 |                      |     | 0    | X1    | 0 3     |
|           |      |      |          |           | WATER    |              | WIND            |         | BARO-    |                | AIR TEMP. °C       |           | NO. OBS.           |                    | SPECIAL              |     |      |       |         |
|           |      |      |          |           | COLOR    | TRANS.       | DIR.            | SPEED   | OR       | METER          | DRY                | WET       | VIS.               | DEPTHS             | OBSERVATIONS         |     |      |       |         |
|           |      |      |          |           | CODE     | UNIT         |                 | OR      | FORCE    | UNIT           | BULB               | BULB      | CODE               |                    |                      |     |      |       |         |
|           |      |      |          |           | DT       | 50           | 06              | 508     | 281      | 144            | 133                | 7         | 49                 |                    |                      |     |      |       |         |
| MESSENGER | CAST | CARD | DEPTH    | T °C      | S ‰      | SIGMA-T      | SPECIFIC VOLUME | Δ D.    | SOUND    | D <sub>2</sub> | PO <sub>2</sub> -P | TOTAL-P   | NO <sub>2</sub> -N | NO <sub>3</sub> -N | SiO <sub>2</sub> -Si | pH  |      |       |         |
| TIME      | NO.  | TYPE | (m)      |           |          |              | ANOMALY-20      | DYN. M. | VELOCITY | ml/l           | pg - ml/l          | pg - ml/l | pg - ml/l          | pg - ml/l          | pg - ml/l            |     |      |       |         |
|           |      | STO  | 0000     | 1216      | 33.70    | 2557         | 0024269         | 0000    | 14964    |                |                    |           |                    |                    |                      |     |      |       |         |
| 050       |      | OBS  | 0000     | 1216      | 33.697   | 2557         |                 |         | 14964    |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | STO  | 0010     | 1216      | 35.34    | 2684         | 0012207         | 0018    | 14986    |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0010     | 1216      | 35.44P   | 2692Q        |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | STO  | 0020     | 1640      | 36.16    | 2656         | 0014895         | 0032    | 15135    |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0020     | 1640      | 36.157   | 2656         |                 |         | 15135    |                |                    |           |                    |                    |                      |     |      |       |         |
| 006       |      | STO  | 0030     | 1626      | 36.14    | 2658         | 0014762         | 0047    | 15132    |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0030     | 1626      | 36.137   | 2658         |                 |         | 15132    |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | STO  | 0050     | 1601      | 36.14    | 2664         | 0014275         | 0076    | 15128    |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0050     | 1601      | 36.137   | 2664         |                 |         | 15128    |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | STO  | 0075     | 1584      | 36.17    | 2670         | 0013765         | 0111    | 15127    |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0075     | 1584      | 36.167   | 2670         |                 |         | 15127    |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | STO  | 0100     | 1576      | 36.18    | 2673         | 0013568         | 0145    | 15129    |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0100     | 1576      | 36.181   | 2673         |                 |         | 15129    |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | STO  | 0125     | 1572      | 36.20    | 2675         | 0013429         | 0179    | 15132    |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0125     | 1572      | 36.199   | 2675         |                 |         | 15132    |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | STO  | 0150     | 1561      | 36.18    | 2676         | 0013429         | 0212    | 15132    |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0150     | 1561      | 36.177   | 2676         |                 |         | 15132    |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | STO  | 0200     | 1540      | 36.13    | 2677         | 0013464         | 0279    | 15133    |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0200     | 1540      | 36.131   | 2677         |                 |         | 15133    |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | STO  | 0250     | 1531      | 36.07    | 2675         | 0013846         | 0348    | 15138    |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0250     | 1531      | 36.073   | 2675         |                 |         | 15138    |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | STO  | 0300     | 1457      | 35.96    | 2682         | 0013277         | 0416    | 15121    |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0300     | 1457      | 35.955   | 2682         |                 |         | 15121    |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0350     | 1392      | 35.827   | 2686         |                 |         | 15107    |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0370     | 1331      | 35.677   | 2687         |                 |         | 15088    |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | STO  | 0400     | 1314      | 35.71    | 2693         | 0012424         | 0544    | 15088    |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0400     | 1314      | 35.709   | 2693         |                 |         | 15088    |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0420     | 1276      | 35.625   | 2694         |                 |         | 15077    |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0455     | 1226      | 35.517   | 2696         |                 |         | 15065    |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0460     | 1237      | 35.617   | 2701         |                 |         | 15071    |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | STO  | 0500     | 1154      | 35.41    | 2701         | 0011766         | 0665    | 15046    |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0500     | 1154      | 35.412   | 2701         |                 |         | 15046    |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0530     | 1096      | 35.352   | 2708         |                 |         | 15030    |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0565     | 0993      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0585     | 1001      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | STO  | 0600     | 0957      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0600     | 0957      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0615     | 0957      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0625     | 0921      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0640     | 0927      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0650     | 0861      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0680     | 0553      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | STO  | 0700     | 0514      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0700     | 0514      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0710     | 0440      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0725     | 0597      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0750     | 0561      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0760     | 0641      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0775     | 0676      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0785     | 0635      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | STO  | 0800     | 0622      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0800     | 0622      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0815     | 0619      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0850     | 0509      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0860     | 0502      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0880     | 0572      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | STO  | 0900     | 0524      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0900     | 0524      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 0925     | 0566      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | STO  | 1000     | 0492      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 1000     | 0492      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | STO  | 1100     | 0467      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 1100     | 0467      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | STO  | 1200     | 0471      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 1200     | 0471      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | STO  | 1300     | 0441      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 1300     | 0441      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | STO  | 1400     | 0422      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 1400     | 0422      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 1440     | 0428      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | STO  | 1500     | 0416      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |
|           |      | OBS  | 1500     | 0416      |          |              |                 |         |          |                |                    |           |                    |                    |                      |     |      |       |         |



TABLE XI.—Continued

| REFERENCE<br>CRUISE NO.    | SHIP<br>CODE | LATITUDE<br>1/10 | LONGITUDE<br>1/10 | HAZARD<br>SQUARE | STATION-TIME<br>(GMT) |         |                         | YEAR                           | ORIGINATOR'S  |                                       | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPLES | WAVE<br>OBSERVATIONS |                       |                                 | WEA-<br>THER<br>CODE    | CLOUD<br>CODES                  |                                 | NODC<br>STATION<br>NUMBER         |      |      |
|----------------------------|--------------|------------------|-------------------|------------------|-----------------------|---------|-------------------------|--------------------------------|---------------|---------------------------------------|-----------------------|--------------------------------|----------------------|-----------------------|---------------------------------|-------------------------|---------------------------------|---------------------------------|-----------------------------------|------|------|
|                            |              |                  |                   |                  | 10'                   | 1"      | MO' DAY HR.1/10         |                                | CRUISE<br>NO. | STATION<br>NUMBER                     |                       |                                | DIR.                 | HGT.                  | PER.                            |                         | SEA                             | TYPE                            |                                   | AMT. |      |
|                            |              |                  |                   |                  | 01                    | 02      | 03                      |                                | 04            | 05                                    |                       |                                | 06                   | 07                    | 08                              |                         | 09                              | 10                              |                                   | 11   | 12   |
| 318042                     | HT           | 4400 N           | 04101 W           | 149              | 41                    | 07      | 07                      | 120                            | 1968          | D20                                   | 005                   | 4617                           | 15                   | 00                    |                                 |                         | 0                               | X2                              | 0                                 | 3    | 0005 |
| WATER                      |              |                  |                   |                  |                       |         |                         |                                |               |                                       |                       |                                |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
| COLOR<br>CODE              |              | TRANSP.<br>(m)   |                   | DIR.             | SPEED<br>OF<br>FORCE  |         | BARO-<br>METER<br>(mba) |                                | AIR TEMP. °C  |                                       | DRY<br>BULB           | WET<br>BULB                    | W. CODE              | NO.<br>DEPTHS<br>OBS. |                                 | SPECIAL<br>OBSERVATIONS |                                 |                                 |                                   |      |      |
| 01                         | 02           | 03               | 04                | 05               | 06                    | 07      | 08                      | 09                             | 10            | 11                                    | 12                    | 13                             | 14                   | 15                    | 16                              | 17                      | 18                              | 19                              | 20                                | 21   |      |
|                            |              |                  |                   |                  |                       |         |                         |                                |               |                                       |                       |                                |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
| MESSAGE<br>TIME<br>HR 1/10 | CASE<br>NO.  | CARD<br>TYPE     | DEPTH (m)         | T °C             | S ‰                   | SIGMA-T |                         | SPECIFIC VOLUME<br>ANOMALY-20° |               | Σ Δ D<br>DYN. M.<br>x 10 <sup>3</sup> |                       | SOUND<br>VELOCITY              |                      | O <sub>2</sub> ml/l   | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l    | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH   |      |
| 120                        |              | STO              | 0000              | 1261             | 3468                  | 2624    |                         | 0017904                        |               | 0000                                  |                       | 14991                          |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            |              | OBS              | 0000              | 1261             | 34675                 | 2624    |                         |                                |               |                                       |                       | 14991                          |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
| 005                        |              | STO              | 0010              | 1641             | 3590                  | 2636    |                         | 0016793                        |               | 0017                                  |                       | 15130                          |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            |              | OBS              | 0010              | 1641             | 35895                 | 2636    |                         |                                |               |                                       |                       | 15130                          |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            |              | STO              | 0020              | 1641             | 3617                  | 2657    |                         | 0014859                        |               | 0033                                  |                       | 15135                          |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            |              | OBS              | 0020              | 1641             | 36165                 | 2657    |                         |                                |               |                                       |                       | 15135                          |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            |              | STO              | 0030              | 1611             | 3613                  | 2661    |                         | 0014482                        |               | 0048                                  |                       | 15127                          |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            |              | OBS              | 0030              | 1611             | 36130                 | 2661    |                         |                                |               |                                       |                       | 15127                          |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            |              | STO              | 0050              | 1601             | 3614                  | 2664    |                         | 0014290                        |               | 0077                                  |                       | 15127                          |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            |              | OBS              | 0050              | 1601             | 36135                 | 2664    |                         |                                |               |                                       |                       | 15127                          |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            |              | OBS              | 0070              | 1585             | 36139                 | 2668    |                         |                                |               |                                       |                       | 15126                          |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            |              | STO              | 0075              | 1583             | 3614                  | 2668    |                         | 0013940                        |               | 0112                                  |                       | 15126                          |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            |              | STO              | 0100              | 1571             | 3614                  | 2671    |                         | 0013772                        |               | 0147                                  |                       | 15126                          |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            |              | OBS              | 0100              | 1571             | 36138                 | 2671    |                         |                                |               |                                       |                       | 15126                          |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            |              | OBS              | 0110              | 1551             | 36138                 | 2675    |                         |                                |               |                                       |                       | 15122                          |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            |              | STO              | 0125              | 1548             | 3614                  | 2676    |                         | 0013374                        |               | 0180                                  |                       | 15123                          |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            |              | OBS              | 0125              | 1548             | 36135                 | 2676    |                         |                                |               |                                       |                       | 15123                          |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            |              | STO              | 0150              | 1543             | 3613                  | 2676    |                         | 0013417                        |               | 0214                                  |                       | 15126                          |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            |              | OBS              | 0150              | 1543             | 36125                 | 2676    |                         |                                |               |                                       |                       | 15126                          |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            |              | STO              | 0200              | 1525             | 3610                  | 2678    |                         | 0013403                        |               | 0281                                  |                       | 15128                          |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            |              | OBS              | 0200              | 1525             | 36095                 | 2678    |                         |                                |               |                                       |                       | 15128                          |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            |              | STO              | 0250              | 1498             | 3604                  | 2679    |                         | 0013414                        |               | 0348                                  |                       | 15127                          |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            |              | OBS              | 0250              | 1498             | 36035                 | 2679    |                         |                                |               |                                       |                       | 15127                          |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            |              | OBS              | 0275              | 1458             | 35939                 | 2681    |                         |                                |               |                                       |                       | 15117                          |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            |              | STO              | 0300              | 1464             | 3558                  | 2682    |                         | 0013279                        |               | 0415                                  |                       | 15124                          |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            |              | OBS              | 0300              | 1464             | 35975                 | 2682    |                         |                                |               |                                       |                       | 15124                          |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            |              | OBS              | 0350              | 1363             | 35735                 | 2685    |                         |                                |               |                                       |                       | 15096                          |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            |              | OBS              | 0360              | 1335             | 35675                 | 2686    |                         |                                |               |                                       |                       | 15088                          |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            |              | OBS              | 0380              | 1335             | 35725                 | 2690    |                         |                                |               |                                       |                       | 15092                          |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            |              | STO              | 0400              | 1335             | 3574                  | 2691    |                         | 0012618                        |               | 0544                                  |                       | 15095                          |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            | OBS          | 0400             | 1335              | 35740            | 2691                  |         |                         |                                |               |                                       | 15095                 |                                |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            | OBS          | 0410             | 1335              | 35755            | 2692                  |         |                         |                                |               |                                       | 15097                 |                                |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            | OBS          | 0450             | 1279              | 35645            | 2695                  |         |                         |                                |               |                                       | 15084                 |                                |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            | STO          | 0500             | 1191              | 3545             | 2697                  |         | 0012219                 |                                | 0668          |                                       | 15059                 |                                |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            | OBS          | 0500             | 1191              | 35445            | 2697                  |         |                         |                                |               |                                       | 15059                 |                                |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            | STO          | 0600             | 0991              | 3528             | 2720                  |         | 0010071                 |                                | 0780          |                                       | 15003                 |                                |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            | OBS          | 0600             | 0991              | 35275            | 2720                  |         |                         |                                |               |                                       | 15003                 |                                |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            | STO          | 0700             | 0820              | 3511             | 2735                  |         | 0008686                 |                                | 0874          |                                       | 14953                 |                                |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            | OBS          | 0700             | 0820              | 35105            | 2735                  |         |                         |                                |               |                                       | 14953                 |                                |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            | OBS          | 0730             | 0565              | 35040            | 2765                  |         |                         |                                |               |                                       | 14858                 |                                |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            | OBS          | 0740             | 0609              |                  |                       |         |                         |                                |               |                                       |                       |                                |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            | OBS          | 0760             | 0531              |                  |                       |         |                         |                                |               |                                       |                       |                                |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            | OBS          | 0780             | 0529              |                  |                       |         |                         |                                |               |                                       |                       |                                |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            | STO          | 0800             | 0558              | 3504             | 2766                  |         | 0005460                 |                                | 0944          |                                       | 14866                 |                                |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            | OBS          | 0800             | 0558              |                  |                       |         |                         |                                |               |                                       |                       |                                |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            | OBS          | 0830             | 0621P             | 35045            | 2758Q                 |         |                         |                                |               |                                       |                       |                                |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            | OBS          | 0840             | 0605P             | 35015            | 2758Q                 |         |                         |                                |               |                                       |                       |                                |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            | STO          | 0900             | 0541              | 3499             | 2764                  |         | 0005794                 |                                | 1001          |                                       | 14875                 |                                |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            | OBS          | 0900             | 0541              | 34985            | 2764                  |         |                         |                                |               |                                       | 14875                 |                                |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            | OBS          | 0950             | 0501              | 34995            | 2769                  |         |                         |                                |               |                                       | 14867                 |                                |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            | STO          | 1000             | 0481              | 3498             | 2770                  |         | 0005191                 |                                | 1056          |                                       | 14867                 |                                |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            | OBS          | 1000             | 0481              | 34975            | 2770                  |         |                         |                                |               |                                       | 14867                 |                                |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            | STO          | 1100             | 0451              | 3495             | 2771                  |         | 0005130                 |                                | 1107          |                                       | 14871                 |                                |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            | OBS          | 1100             | 0451              | 34945            | 2771                  |         |                         |                                |               |                                       | 14871                 |                                |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            | STO          | 1200             | 0451              | 3499             | 2774                  |         | 0004939                 |                                | 1158          |                                       | 14889                 |                                |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            | OBS          | 1200             | 0451              | 34985            | 2774                  |         |                         |                                |               |                                       | 14889                 |                                |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            | STO          | 1300             | 0421              | 3499             | 2778                  |         | 0004610                 |                                | 1205          |                                       | 14893                 |                                |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            | OBS          | 1300             | 0421              | 34990            | 2778                  |         |                         |                                |               |                                       | 14893                 |                                |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            | STO          | 1400             | 0404              | 3498             | 2778                  |         | 0004592                 |                                | 1251          |                                       | 14902                 |                                |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            | OBS          | 1400             | 0404              | 34975            | 2778                  |         |                         |                                |               |                                       | 14902                 |                                |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            | STO          | 1500             | 0399              | 3498             | 2780                  |         | 0004559                 |                                | 1297          |                                       | 14917                 |                                |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |
|                            | OBS          | 1500             | 0399              | 34983            | 2780                  |         |                         |                                |               |                                       | 14917                 |                                |                      |                       |                                 |                         |                                 |                                 |                                   |      |      |



TABLE XI.—Continued

| REFERENCE               |          | SHIP      | LATITUDE  | LONGITUDE | MARSDEN    |            | STATION TIME                 |             | YEAR                            | ORIGINATOR'S   |                    | DEPTH                        | MAX. DEPTH OF SAMPLE | WAVE OBSERVATIONS            |                              |                                | WEATHER CODE | CLOUD CODES |     | NODC STATION NUMBER |
|-------------------------|----------|-----------|-----------|-----------|------------|------------|------------------------------|-------------|---------------------------------|----------------|--------------------|------------------------------|----------------------|------------------------------|------------------------------|--------------------------------|--------------|-------------|-----|---------------------|
| CITY CODE               | ID. NO.  | CODE      | ° 1/10    | ° 1/10    | SQUARE     | (GMT)      | MO                           | DAY         |                                 | CRUISE NO.     | STATION NUMBER     | TO BOTTOM                    |                      | DIR                          | HGT                          | PER                            | SEA          | TYPE        | AMT |                     |
| 318042                  | HT       |           | 4352 N    | 04101 W   | 149        | 31         | 07                           | 07          | 177                             | 1968           | 020 006            | 4572                         | 15                   | 03                           | 0                            | 1                              | X1           | 0           | 3   | 0006                |
|                         |          |           |           |           | WATER      |            | WIND                         |             | AIR TEMP. °C                    |                | VIS. CODE          | NO. DEPTHS                   | SPECIAL OBSERVATIONS |                              |                              |                                |              |             |     |                     |
|                         |          |           |           |           | COLOR CODE | TRANS. (m) | DIR.                         | SPEED (kts) | BARG-METER (mb)                 | DRY BULB       |                    |                              |                      | WET BULB                     |                              |                                |              |             |     |                     |
|                         |          |           |           |           | DT         | SO         | 07                           | S05         | 305                             | 161            | 144                | 7                            | 39                   |                              |                              |                                |              |             |     |                     |
| MESSAGE TIME OF HR 1/10 | CAST NO. | CARD TYPE | DEPTH (m) | T °C      | S ‰        | SIGMA-T    | SPECIFIC VOLUME ANOMALY-210° |             | Σ Δ D OYM, M. x 10 <sup>3</sup> | SOUND VELOCITY | D <sub>2</sub> m/s | PO <sub>4</sub> -P μg - ml/l | TOTAL-P μg - ml/l    | NO <sub>3</sub> -N μg - ml/l | NO <sub>3</sub> -N μg - ml/l | SiO <sub>4</sub> -Si μg - ml/l | pH           |             |     |                     |
| 177                     | STD      | 0000      | 0000      | 1651      | 3542       | 2597       |                              |             | 0020480                         | 0000           |                    | 15126                        |                      |                              |                              |                                |              |             |     |                     |
|                         | OBS      | 0000      | 0000      | 1651      | 35415      | 2597       |                              |             |                                 |                |                    | 15126                        |                      |                              |                              |                                |              |             |     |                     |
| 006                     | STD      | 0010      | 0010      | 1649      | 3570       | 2619       |                              |             | 0018427                         | 0019           |                    | 15130                        |                      |                              |                              |                                |              |             |     |                     |
|                         | OBS      | 0010      | 0010      | 1649      | 35695      | 2619       |                              |             |                                 |                |                    | 15130                        |                      |                              |                              |                                |              |             |     |                     |
|                         | STD      | 0020      | 0020      | 1663      | 3615       | 2650       |                              |             | 0015497                         | 0036           |                    | 15142                        |                      |                              |                              |                                |              |             |     |                     |
|                         | OBS      | 0020      | 0020      | 1663      | 36145      | 2650       |                              |             |                                 |                |                    | 15142                        |                      |                              |                              |                                |              |             |     |                     |
|                         | STD      | 0030      | 0030      | 1689      | 3623       | 2650       |                              |             | 0015535                         | 0052           |                    | 15152                        |                      |                              |                              |                                |              |             |     |                     |
|                         | OBS      | 0030      | 0030      | 1689      | 36225      | 2650       |                              |             |                                 |                |                    | 15152                        |                      |                              |                              |                                |              |             |     |                     |
|                         | STD      | 0050      | 0050      | 1670      | 3623       | 2655       |                              |             | 0015113                         | 0083           |                    | 15150                        |                      |                              |                              |                                |              |             |     |                     |
|                         | OBS      | 0050      | 0050      | 1670      | 36233      | 2655       |                              |             |                                 |                |                    | 15150                        |                      |                              |                              |                                |              |             |     |                     |
|                         | STD      | 0075      | 0075      | 1650      | 3625       | 2661       |                              |             | 0014658                         | 0120           |                    | 15148                        |                      |                              |                              |                                |              |             |     |                     |
|                         | OBS      | 0075      | 0075      | 1650      | 36245      | 2661       |                              |             |                                 |                |                    | 15148                        |                      |                              |                              |                                |              |             |     |                     |
|                         | STD      | 0100      | 0100      | 1621      | 3619       | 2663       |                              |             | 0014493                         | 0156           |                    | 15142                        |                      |                              |                              |                                |              |             |     |                     |
|                         | OBS      | 0100      | 0100      | 1621      | 36190      | 2663       |                              |             |                                 |                |                    | 15142                        |                      |                              |                              |                                |              |             |     |                     |
|                         | STD      | 0125      | 0125      | 1581      | 3607       | 2663       |                              |             | 0014601                         | 0193           |                    | 15133                        |                      |                              |                              |                                |              |             |     |                     |
|                         | OBS      | 0125      | 0125      | 1581      | 36065      | 2663       |                              |             |                                 |                |                    | 15133                        |                      |                              |                              |                                |              |             |     |                     |
|                         | OBS      | 0135      | 0135      | 1556      | 36075      | 2669       |                              |             |                                 |                |                    | 15127                        |                      |                              |                              |                                |              |             |     |                     |
|                         | STD      | 0150      | 0150      | 1554      | 3610       | 2671       |                              |             | 0013873                         | 0228           |                    | 15129                        |                      |                              |                              |                                |              |             |     |                     |
|                         | OBS      | 0150      | 0150      | 1554      | 36095      | 2671       |                              |             |                                 |                |                    | 15129                        |                      |                              |                              |                                |              |             |     |                     |
|                         | STD      | 0200      | 0200      | 1536      | 3610       | 2675       |                              |             | 0013640                         | 0297           |                    | 15131                        |                      |                              |                              |                                |              |             |     |                     |
|                         | OBS      | 0200      | 0200      | 1536      | 36095      | 2675       |                              |             |                                 |                |                    | 15131                        |                      |                              |                              |                                |              |             |     |                     |
|                         | STD      | 0250      | 0250      | 1479      | 3600       | 2680       |                              |             | 0013301                         | 0364           |                    | 15120                        |                      |                              |                              |                                |              |             |     |                     |
| OBS                     | 0250     | 0250      | 1479      | 35995     | 2680       |            |                              |             |                                 |                | 15120              |                              |                      |                              |                              |                                |              |             |     |                     |
| STD                     | 0300     | 0300      | 1430      | 3590      | 2683       |            |                              | 0013149     | 0430                            |                | 15112              |                              |                      |                              |                              |                                |              |             |     |                     |
| OBS                     | 0300     | 0300      | 1430      | 35895     | 2683       |            |                              |             |                                 |                | 15112              |                              |                      |                              |                              |                                |              |             |     |                     |
| OBS                     | 0350     | 0350      | 1341      | 35695     | 2686       |            |                              |             |                                 |                | 15088              |                              |                      |                              |                              |                                |              |             |     |                     |
| OBS                     | 0395     | 0395      | 1262      | 35601     | 2695       |            |                              |             |                                 |                | 15068              |                              |                      |                              |                              |                                |              |             |     |                     |
| STD                     | 0400     | 0400      | 1291      | 3571      | 2698       |            |                              | 0011961     | 0556                            |                | 15080              |                              |                      |                              |                              |                                |              |             |     |                     |
| OBS                     | 0400     | 0400      | 1291      | 35710     | 2698       |            |                              |             |                                 |                | 15080              |                              |                      |                              |                              |                                |              |             |     |                     |
| OBS                     | 0416     | 0416      | 1296      | 35708     | 2697       |            |                              |             |                                 |                | 15084              |                              |                      |                              |                              |                                |              |             |     |                     |
| OBS                     | 0450     | 0450      | 1239      | 35587     | 2699       |            |                              |             |                                 |                | 15069              |                              |                      |                              |                              |                                |              |             |     |                     |
| OBS                     | 0490     | 0490      | 1121      | 35375     | 2705       |            |                              |             |                                 |                | 15032              |                              |                      |                              |                              |                                |              |             |     |                     |
| STD                     | 0500     | 0500      | 1091      | 3532      | 2706       |            |                              | 0011262     | 0672                            |                | 15023              |                              |                      |                              |                              |                                |              |             |     |                     |
| OBS                     | 0500     | 0500      | 1091      | 35323     | 2706       |            |                              |             |                                 |                | 15023              |                              |                      |                              |                              |                                |              |             |     |                     |
| OBS                     | 0540     | 0540      | 1040      | 35335     | 2716       |            |                              |             |                                 |                | 15011              |                              |                      |                              |                              |                                |              |             |     |                     |
| STD                     | 0600     | 0600      | 0919      | 3519      | 2725       |            |                              | 0009497     | 0776                            |                | 14975              |                              |                      |                              |                              |                                |              |             |     |                     |
| OBS                     | 0600     | 0600      | 0919      | 35187     | 2725       |            |                              |             |                                 |                | 14975              |                              |                      |                              |                              |                                |              |             |     |                     |
| OBS                     | 0650     | 0650      | 0781      | 35045     | 2736       |            |                              |             |                                 |                | 14929              |                              |                      |                              |                              |                                |              |             |     |                     |
| OBS                     | 0670     | 0670      | 0765      | 35115     | 2744       |            |                              |             |                                 |                | 14928              |                              |                      |                              |                              |                                |              |             |     |                     |
| STD                     | 0700     | 0700      | 0773      | 3515      | 2745       |            |                              | 0007601     | 0861                            |                | 14936              |                              |                      |                              |                              |                                |              |             |     |                     |
| OBS                     | 0700     | 0700      | 0773      | 35153     | 2745       |            |                              |             |                                 |                | 14936              |                              |                      |                              |                              |                                |              |             |     |                     |
| OBS                     | 0710     | 0710      | 0763      | 35185     | 2749       |            |                              |             |                                 |                | 14934              |                              |                      |                              |                              |                                |              |             |     |                     |
| OBS                     | 0740     | 0740      | 0680      | 35053     | 2751       |            |                              |             |                                 |                | 14905              |                              |                      |                              |                              |                                |              |             |     |                     |
| OBS                     | 0755     | 0700      | 0519      | 35119     | 2753       |            |                              |             |                                 |                | 14916              |                              |                      |                              |                              |                                |              |             |     |                     |
| STD                     | 0800     | 0800      | 0598      | 3499      | 2757       |            |                              | 0006402     | 0931                            |                | 14882              |                              |                      |                              |                              |                                |              |             |     |                     |
| OBS                     | 0800     | 0800      | 0598      | 34990     | 2757       |            |                              |             |                                 |                | 14882              |                              |                      |                              |                              |                                |              |             |     |                     |
| OBS                     | 0830     | 0830      | 0526      | 34905     | 2759       |            |                              |             |                                 |                | 14857              |                              |                      |                              |                              |                                |              |             |     |                     |
| STD                     | 0900     | 0900      | 0519      | 3499      | 2766       |            |                              | 0005501     | 0991                            |                | 14866              |                              |                      |                              |                              |                                |              |             |     |                     |
| OBS                     | 0900     | 0900      | 0519      | 34985     | 2766       |            |                              |             |                                 |                | 14866              |                              |                      |                              |                              |                                |              |             |     |                     |
| OBS                     | 0920     | 0920      | 0539      | 35017     | 2766       |            |                              |             |                                 |                | 14878              |                              |                      |                              |                              |                                |              |             |     |                     |
| OBS                     | 0990     | 0990      | 0481      | 34967     | 2769       |            |                              |             |                                 |                | 14866              |                              |                      |                              |                              |                                |              |             |     |                     |
| STD                     | 1000     | 1000      | 0480      | 3497      | 2770       |            |                              | 0005215     | 1045                            |                | 14867              |                              |                      |                              |                              |                                |              |             |     |                     |
| OBS                     | 1000     | 1000      | 0480      | 34970     | 2770       |            |                              |             |                                 |                | 14867              |                              |                      |                              |                              |                                |              |             |     |                     |
| STD                     | 1100     | 1100      | 0473      | 3502      | 2774       |            |                              | 0004895     | 1095                            |                | 14881              |                              |                      |                              |                              |                                |              |             |     |                     |
| OBS                     | 1100     | 1100      | 0473      | 35016     | 2774       |            |                              |             |                                 |                | 14881              |                              |                      |                              |                              |                                |              |             |     |                     |
| STD                     | 1200     | 1200      | 0439      | 3498      | 2775       |            |                              | 0004841     | 1144                            |                | 14883              |                              |                      |                              |                              |                                |              |             |     |                     |
| OBS                     | 1200     | 1200      | 0439      | 34977     | 2775       |            |                              |             |                                 |                | 14883              |                              |                      |                              |                              |                                |              |             |     |                     |
| STD                     | 1300     | 1300      | 0436      | 3499      | 2776       |            |                              | 0004821     | 1192                            |                | 14899              |                              |                      |                              |                              |                                |              |             |     |                     |
| OBS                     | 1300     | 1300      | 0436      | 34988     | 2776       |            |                              |             |                                 |                | 14899              |                              |                      |                              |                              |                                |              |             |     |                     |
| STD                     | 1400     | 1400      | 0421      | 3498      | 2777       |            |                              | 0004801     | 1240                            |                | 14909              |                              |                      |                              |                              |                                |              |             |     |                     |
| OBS                     | 1400     | 1400      | 0421      | 34977     | 2777       |            |                              |             |                                 |                | 14909              |                              |                      |                              |                              |                                |              |             |     |                     |
| STD                     | 1500     | 1500      | 0398      | 3496      | 2777       |            |                              | 0004743     | 1288                            |                | 14916              |                              |                      |                              |                              |                                |              |             |     |                     |
| OBS                     | 1500     | 1500      | 0398      | 34956     | 2777       |            |                              |             |                                 |                | 14916              |                              |                      |                              |                              |                                |              |             |     |                     |



TABLE XI.—Continued

| MEASURED<br>HR 1/10 | CASE<br>NO. | CARD<br>TYPE | DEPTH (m) | T °C  | S %   | SIGMA-T | SPECIFIC VOLUME<br>ANOMALY-310° | $\Sigma \Delta D$<br>DYN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | D <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>µg - ml/l | TOTAL-P<br>µg - ml/l | NO <sub>3</sub> -N<br>µg - ml/l | NO <sub>2</sub> -N<br>µg - ml/l | SiO <sub>4</sub> -Si<br>µg - ml/l | pH |
|---------------------|-------------|--------------|-----------|-------|-------|---------|---------------------------------|---|-------------------|---------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|----|
| 230                 |             | STD          | 0000      | 1501  | 3463  | 2570    | 0023015                         | 0000  | 15070             |                     |                                 |                      |                                 |                                 |                                   |    |
|                     |             | 085          | 0000      | 1501  | 34625 | 2570    |                                 |   | 15070             |                     |                                 |                      |                                 |                                 |                                   |    |
|                     |             | STD          | 0010      | 1621  | 3560  | 2617    | 0018536                         | 0021  | 15120             |                     |                                 |                      |                                 |                                 |                                   |    |
| 006                 |             | 085          | 0010      | 1621  | 35595 | 2617    |                                 |   | 15120             |                     |                                 |                      |                                 |                                 |                                   |    |
|                     |             | STD          | 0020      | 1631  | 3582  | 2632    | 0017186                         | 0039  | 15128             |                     |                                 |                      |                                 |                                 |                                   |    |
|                     |             | 085          | 0020      | 1631  | 35815 | 2632    |                                 |   | 15128             |                     |                                 |                      |                                 |                                 |                                   |    |
|                     |             | STD          | 0030      | 1661  | 3610  | 2646    | 0015849                         | 0055  | 15142             |                     |                                 |                      |                                 |                                 |                                   |    |
|                     |             | 085          | 0030      | 1661  | 36095 | 2646    |                                 |   | 15142             |                     |                                 |                      |                                 |                                 |                                   |    |
|                     |             | STD          | 0050      | 1621  | 3620  | 2663    | 0014294                         | 0085  | 15134             |                     |                                 |                      |                                 |                                 |                                   |    |
|                     |             | 085          | 0050      | 1621  | 36195 | 2663    |                                 |   | 15134             |                     |                                 |                      |                                 |                                 |                                   |    |
|                     |             | STD          | 0075      | 1551  | 3607  | 2670    | 0013791                         | 0120  | 15115             |                     |                                 |                      |                                 |                                 |                                   |    |
|                     |             | 085          | 0075      | 1551  | 36065 | 2670    |                                 |   | 15115             |                     |                                 |                      |                                 |                                 |                                   |    |
|                     |             | STD          | 0100      | 1535  | 3604  | 2671    | 0013744                         | 0155  | 15114             |                     |                                 |                      |                                 |                                 |                                   |    |
|                     |             | 085          | 0100      | 1535  | 36035 | 2671    |                                 |   | 15114             |                     |                                 |                      |                                 |                                 |                                   |    |
|                     |             | 085          | 0110      | 1522  | 36015 | 2672    |                                 |   | 15111             |                     |                                 |                      |                                 |                                 |                                   |    |
|                     |             | STD          | 0125      | 1543  | 3610  | 2674    | 0013557                         | 0189  | 15121             |                     |                                 |                      |                                 |                                 |                                   |    |
|                     |             | 085          | 0125      | 1543  | 36095 | 2674    |                                 |   | 15121             |                     |                                 |                      |                                 |                                 |                                   |    |
|                     |             | STD          | 0150      | 1541  | 3609  | 2673    | 0013665                         | 0223  | 15125             |                     |                                 |                      |                                 |                                 |                                   |    |
|                     |             | 085          | 0150      | 1541  | 36085 | 2673    |                                 |   | 15125             |                     |                                 |                      |                                 |                                 |                                   |    |
|                     |             | 085          | 0170      | 1481  | 36005 | 2681    |                                 |   | 15108             |                     |                                 |                      |                                 |                                 |                                   |    |
|                     |             | 085          | 0178      | 1442  | 35895 | 2681    |                                 |   | 15096             |                     |                                 |                      |                                 |                                 |                                   |    |
|                     |             | 085          | 0190      | 1465  | 35965 | 2681    |                                 |   | 15106             |                     |                                 |                      |                                 |                                 |                                   |    |
|                     |             | STD          | 0200      | 1455  | 3595  | 2682    | 0013011                         | 0290  | 15104             |                     |                                 |                      |                                 |                                 |                                   |    |
|                     |             | 085          | 0200      | 1455  | 35945 | 2682    |                                 |   | 15104             |                     |                                 |                      |                                 |                                 |                                   |    |
|                     |             | 085          | 0225      | 1423  | 35875 | 2683    |                                 |   | 15097             |                     |                                 |                      |                                 |                                 |                                   |    |
|                     |             | STD          | 0250      | 1401  | 3584  | 2685    | 0012791                         | 0354  | 15093             |                     |                                 |                      |                                 |                                 |                                   |    |
|                     |             | 085          | 0250      | 1401  | 35842 | 2685    |                                 |   | 15093             |                     |                                 |                      |                                 |                                 |                                   |    |
|                     |             | STD          | 0300      | 1371  | 3584  | 2691    | 0012374                         | 0417  | 15092             |                     |                                 |                      |                                 |                                 |                                   |    |
|                     |             | 085          | 0300      | 1371  | 35835 | 2691    |                                 |   | 15092             |                     |                                 |                      |                                 |                                 |                                   |    |
|                     |             | 085          | 0330      | 1293  | 35635 | 2692    |                                 |   | 15068             |                     |                                 |                      |                                 |                                 |                                   |    |
|                     |             | 085          | 0360      | 1299  | 35675 | 2694    |                                 |   | 15076             |                     |                                 |                      |                                 |                                 |                                   |    |
|                     |             | 085          | 0370      | 1271  | 35635 | 2696    |                                 |   | 15068             |                     |                                 |                      |                                 |                                 |                                   |    |
|                     |             | STD          | 0400      | 1261  | 3567  | 2700    | 0011702                         | 0537  | 15069             |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | 085         | 0400         | 1261      | 35665 | 2700  |         |                                 | 15069   |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | 085         | 0440         | 1171      | 35447 | 2701  |         |                                 | 15042   |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | 085         | 0450         | 1111      | 35307 | 2701  |         |                                 | 15021   |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | 085         | 0470         | 1071      | 35307 | 2709  |         |                                 | 15010   |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | 085         | 0480         | 1026      | 35285 | 2715  |         |                                 | 14996   |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | STD         | 0500         | 1001      | 3529  | 2719  | 0009955 | 0646                            | 14990   |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | 085         | 0500         | 1001      | 35285 | 2719  |         |                                 | 14990   |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | 085         | 0540         | 0941      | 35295 | 2730  |         |                                 | 14975   |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | STD         | 0600         | 0841      | 3520  | 2738  | 0008174 | 0736                            | 14946   |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | 085         | 0600         | 0841      | 35195 | 2738  |         |                                 | 14946   |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | 085         | 0620         | 0781      | 35105 | 2740  |         |                                 | 14925   |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | 085         | 0630         | 0793      | 35165 | 2743  |         |                                 | 14932   |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | 085         | 0660         | 0771      | 35175 | 2747  |         |                                 | 14929   |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | STD         | 0700         | 0682      | 3508  | 2752  | 0006818 | 0811                            | 14900   |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | 085         | 0700         | 0682      | 35075 | 2752  |         |                                 | 14900   |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | 085         | 0720         | 0682      | 35135 | 2757  |         |                                 | 14904   |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | 085         | 0730         | 0621      | 35035 | 2757  |         |                                 | 14880   |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | 085         | 0770         | 0551      | 34955 | 2760  |         |                                 | 14857   |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | 085         | 0780         | 0525      | 34915 | 2760  |         |                                 | 14848   |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | STD         | 0800         | 0519      | 3492  | 2761  | 0005898 | 0875                            | 14849   |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | 085         | 0800         | 0519      | 34915 | 2761  |         |                                 | 14849   |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | 085         | 0850         | 0504      | 34935 | 2764  |         |                                 | 14851   |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | 085         | 0870         | 0521      | 34995 | 2767  |         |                                 | 14862   |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | STD         | 0900         | 0501      | 3498  | 2768  | 0005339 | 0931                            | 14859   |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | 085         | 0900         | 0501      | 34975 | 2768  |         |                                 | 14859   |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | 085         | 0960         | 0481      | 34985 | 2771  |         |                                 | 14861   |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | STD         | 1000         | 0479      | 3498  | 2770  | 0005136 | 0983                            | 14867   |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | 085         | 1000         | 0479      | 34979 | 2770  |         |                                 | 14867   |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | STD         | 1100         | 0463      | 3500  | 2774  | 0004896 | 1034                            | 14877   |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | 085         | 1100         | 0463      | 34998 | 2774  |         |                                 | 14877   |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | 085         | 1150         | 0439      | 34975 | 2775  |         |                                 | 14875   |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | STD         | 1200         | 0439      | 3498  | 2775  | 0004856 | 1082                            | 14883   |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | 085         | 1200         | 0439      | 34975 | 2775  |         |                                 | 14883   |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | STD         | 1300         | 0421      | 3497  | 2776  | 0004793 | 1131                            | 14893   |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | 085         | 1300         | 0421      | 34965 | 2776  |         |                                 | 14893   |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | STD         | 1400         | 0419      | 3498  | 2777  | 0004789 | 1179                            | 14909   |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | 085         | 1400         | 0419      | 34975 | 2777  |         |                                 | 14909   |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | STD         | 1500         | 0391      | 3496  | 2778  | 0004658 | 1226                            | 14914   |                   |                     |                                 |                      |                                 |                                 |                                   |    |
|                     | 085         | 1500         | 0391      | 34955 | 2778  |         |                                 | 14914   |                   |                     |                                 |                      |                                 |                                 |                                   |    |



TABLE XI.—Continued

| REFERENCE                  |               | SHIP<br>CODE | LATITUDE<br>*<br>1/10 | LONGITUDE<br>*<br>1/10 | MARSDEN<br>SQUARE | STATION TIME<br>IGMT1 |                                | YEAR                                | ORIGINATOR'S      |                     | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLES | WAVE<br>OBSERVATIONS            |                                 |                                   |            | WAVE-<br>ENER<br>CODE | CLOUD<br>CODES |      | HDDC<br>STATION<br>NUMBER |
|----------------------------|---------------|--------------|-----------------------|------------------------|-------------------|-----------------------|--------------------------------|-------------------------------------|-------------------|---------------------|---------------------------------|--------------------------------|---------------------------------|---------------------------------|-----------------------------------|------------|-----------------------|----------------|------|---------------------------|
| CWV<br>CODE                | ID.<br>NO.    |              |                       |                        |                   | CRUISE<br>NO.         | STATION<br>NUMBER              |                                     | DIR.              | HGT                 |                                 |                                | PER                             | SEA                             | 17%<br>AMT                        | 17%<br>AMT |                       |                |      |                           |
| 318042                     | HT            | 4400 N       | 04100 W               | 149 41                 | 07 08 050         | 1968                  | 020                            | 008                                 | 4572              | 15                  | 24                              |                                |                                 | 1                               | X1                                | 0          | 3                     |                | 0008 |                           |
|                            |               |              |                       |                        |                   |                       |                                |                                     |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
| WATER                      |               | WIND         |                       | BARO-<br>METER         |                   | AIR TEMP. °C          |                                | VIS<br>CODE                         |                   | NO. OBS.<br>DEPTHS  |                                 | SPECIAL<br>OBSERVATIONS        |                                 |                                 |                                   |            |                       |                |      |                           |
| COLOR<br>CODE              | TRANS-<br>MIT | DIR.         | SPED<br>OF<br>FORCE   | BARO-<br>METER<br>mmHg | DRY<br>BULB       | WET<br>BULB           | VIS<br>CODE                    | NO. OBS.<br>DEPTHS                  |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
| 01                         | 50            | 24           | 506                   | 295                    | 156               | 139                   | 6                              | 25                                  |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
| MISSING<br>TIME<br>HR 1/10 | CAST<br>NO.   | CARD<br>TYPE | DEPTH (m)             | T °C                   | S ‰               | SIGMA-T               | SPECIFIC VOLUME<br>ANOMALY-30° | Δ D<br>DTN. M.<br>X 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>2</sub> =P<br>μg - 01/1 | TOTAL-P<br>μg - 01/1           | NO <sub>3</sub> -N<br>μg - 01/1 | NO <sub>3</sub> -N<br>μg - 01/1 | SiO <sub>4</sub> -Si<br>μg - 01/1 | pH         | S<br>C                |                |      |                           |
| 050                        | STO           | 0000         | 1500                  | 3453                   | 2563              | 0023674               | 0000                           | 15068                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | D85           | 0000         | 1500                  | 34532                  | 2563              |                       |                                | 15068                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | STO           | 0010         | 1596                  | 3556                   | 2620              | 0018244               | 0021                           | 15112                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | D85           | 0010         | 1596                  |                        |                   |                       |                                |                                     |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
| 006                        | STO           | 0020         | 1594                  | 3610                   | 2662              | 0014331               | 0037                           | 15120                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | D85           | 0020         | 1594                  | 36095                  | 2662              |                       |                                | 15120                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | STO           | 0030         | 1601                  | 3613                   | 2663              | 0014284               | 0052                           | 15124                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | D85           | 0030         | 1601                  | 36127                  | 2663              |                       |                                | 15124                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | D85           | 0040         | 1653                  | 36225                  | 2658              |                       |                                | 15143                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | STO           | 0050         | 1646                  | 3621                   | 2658              | 0014778               | 0081                           | 15142                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | D85           | 0050         | 1646                  | 36205                  | 2658              |                       |                                | 15142                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | STO           | 0075         | 1596                  | 3614                   | 2665              | 0014224               | 0117                           | 15130                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | D85           | 0075         | 1596                  | 36140                  | 2665              |                       |                                | 15130                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | STO           | 0100         | 1561                  | 3608                   | 2668              | 0014013               | 0152                           | 15123                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | D85           | 0100         | 1561                  | 36075                  | 2668              |                       |                                | 15123                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | STO           | 0125         | 1541                  | 3604                   | 2670              | 0013914               | 0187                           | 15120                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | D85           | 0150         | 1516                  | 3600                   | 2672              | 0013754               | 0222                           | 15116                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | STO           | 0200         | 1448                  | 3588                   | 2678              |                       |                                | 15116                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | D85           | 0200         | 1448                  | 35880                  | 2678              | 0013339               | 0289                           | 15101                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | STO           | 0250         | 1398                  | 3578                   | 2681              |                       |                                | 15101                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | D85           | 0250         | 1398                  | 35775                  | 2681              | 0013218               | 0356                           | 15092                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | STO           | 0300         | 1359                  | 3568                   | 2681              |                       |                                | 15092                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | D85           | 0300         | 1359                  | 35675                  | 2681              | 0013297               | 0422                           | 15086                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | D85           | 0350         | 1290                  | 35695                  | 2697              |                       |                                | 15086                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | STO           | 0400         | 1261                  | 3562                   | 2697              | 0012045               | 0549                           | 15071                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | D85           | 0400         | 1261                  | 35616                  | 2697              |                       |                                | 15069                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | STO           | 0500         | 1011                  | 3523                   | 2713              |                       |                                | 14993                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | D85           | 0500         | 1011                  | 35225                  | 2713              | 0010567               | 0662                           | 14993                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | STO           | 0600         | 0875                  | 3517                   | 2731              |                       |                                | 14993                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | D85           | 0600         | 0875                  | 35171                  | 2731              | 0008894               | 0759                           | 14959                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | STO           | 0700         | 0741                  | 3506                   | 2743              |                       |                                | 14959                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | D85           | 0700         | 0741                  | 35057                  | 2743              | 0007820               | 0843                           | 14922                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | STO           | 0800         | 0518                  | 3491                   | 2761              |                       |                                | 14922                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | D85           | 0800         | 0518                  | 34912                  | 2761              | 0005907               | 0911                           | 14848                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | STO           | 0900         | 0518                  | 3501                   | 2769              |                       |                                | 14848                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | D85           | 0900         | 0518                  | 35014                  | 2769              | 0005274               | 0967                           | 14866                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | STO           | 1000         | 0479                  | 3498                   | 2770              |                       |                                | 14866                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | D85           | 1000         | 0479                  | 34977                  | 2770              | 0005151               | 1019                           | 14867                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | STO           | 1100         | 0458                  | 3499                   | 2774              |                       |                                | 14867                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | D85           | 1100         | 0458                  | 34993                  | 2774              | 0004868               | 1069                           | 14875                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | STO           | 1200         | 0444                  | 3497                   | 2774              |                       |                                | 14875                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | D85           | 1200         | 0444                  | 34973                  | 2774              | 0004936               | 1118                           | 14885                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | STO           | 1300         | 0416                  | 3496                   | 2775              |                       |                                | 14885                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | D85           | 1300         | 0416                  | 34955                  | 2775              | 0004802               | 1167                           | 14890                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | STO           | 1400         | 0397                  | 3494                   | 2776              |                       |                                | 14890                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | D85           | 1400         | 0397                  | 34937                  | 2776              | 0004780               | 1215                           | 14899                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | STO           | 1500         | 0378                  | 3492                   | 2777              |                       |                                | 14899                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |
|                            | D85           | 1500         | 0378                  | 34919                  | 2777              | 0004752               | 1263                           | 14908                               |                   |                     |                                 |                                |                                 |                                 |                                   |            |                       |                |      |                           |



TABLE XI.—Continued

| REFERENCE      |           | SHIP CODE     | LATITUDE<br>1/10 | LONGITUDE<br>1/10 | MARS DEN<br>SQUARE | STATION TIME<br>(GMT) |             |                      |             | YEAR | ORIGINATOR'S |                   | DEPTH TO<br>BOTTOM | MAX. DEPTH<br>OF SAMPLES | WAVE<br>OBSERVATIONS |                   |             | WEA-<br>THER<br>CODE    | CLOUD<br>CODES<br>(TH AMT) | MODC.<br>STATION<br>NUMBER |             |
|----------------|-----------|---------------|------------------|-------------------|--------------------|-----------------------|-------------|----------------------|-------------|------|--------------|-------------------|--------------------|--------------------------|----------------------|-------------------|-------------|-------------------------|----------------------------|----------------------------|-------------|
| CRUISE<br>CODE | ID<br>NO. |               |                  |                   |                    | MO                    | DAY         | HR                   | MIN         |      | SEC          | STATION<br>NUMBER |                    |                          | CRUISE<br>NO.        | STATION<br>NUMBER | DIR         |                         |                            |                            | HGT         |
| 318042         | HT        |               | 4406 N           | 04104 W           | 149                | 41                    | 07          | 08                   | 113         | 1908 | 020          | 009               | 4572               | 15                       | 15                   |                   |             | 1                       | X6                         | 0 3                        | 0009        |
|                |           | WATER         |                  | WIND              |                    | SAND-<br>METER        |             | SPEED<br>OR<br>FORCE |             | DIR  |              | WET<br>BULB       |                    | VIL CODE                 |                      | NO. OBS.<br>DEPTH |             | SPECIAL<br>OBSERVATIONS |                            |                            |             |
|                |           | COLOR<br>CODE | TRANS<br>MIL     | DIR               | SPED<br>KTS        | DIR                   | SPED<br>KTS | DIR                  | SPED<br>KTS | DIR  | SPED<br>KTS  | DIR               | SPED<br>KTS        | DIR                      | SPED<br>KTS          | DIR               | SPED<br>KTS | DIR                     | SPED<br>KTS                | DIR                        | SPED<br>KTS |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |
|                |           |               |                  |                   |                    |                       |             |                      |             |      |              |                   |                    |                          |                      |                   |             |                         |                            |                            |             |



TABLE XI.—Continued

| REFERENCE<br>CITY<br>CODE | ID.<br>NO. | SHIP<br>CODE | LATITUDE<br>°<br>1/10 | LONGITUDE<br>°<br>1/10 | MOON<br>PHASE | MARSDEN<br>SQUARE            |               | STATION TIME<br>(GMT) |                      |              | YEAR        | ORIGINATOR'S  |                                 | DEPTH<br>TO<br>BOTTOM                           | MAX.<br>DEPTH<br>OF<br>SAMPLES | WAVE<br>OBSERVATIONS    |                                 |                      |                                 | WEA-<br>THER<br>CODE            | CLOUD<br>CODES                    |     | NODC<br>STATION<br>NUMBER |  |
|---------------------------|------------|--------------|-----------------------|------------------------|---------------|------------------------------|---------------|-----------------------|----------------------|--------------|-------------|---------------|---------------------------------|---|--------------------------------|-------------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|-----|---------------------------|--|
|                           |            |              |                       |                        |               | 10"                          | 1"            | MO                    | DAY                  | HRLY/10      |             | CRUISE<br>NO. | STATION<br>NUMBER               |   |                                | DIR                     | NGT                             | PER                  | SEA                             |                                 | TYPE                              | AMT |                           |  |
|                           |            |              |                       |                        |               | WATER                        | WIND          | WIND                  | BARO-<br>METER       | AIR TEMP. °C |             | VIL<br>CODE   | NO.<br>OBS.                     |   |                                | SPECIAL<br>OBSERVATIONS | TYPE                            | AMT                  |                                 |                                 |                                   |     |                           |  |
| 318042                    |            | HT           | 4410 N                | 04103 W                |               | 149                          | 41            | 07                    | 08                   | 170          | 1968        | 020           | 010                             | 4572  | 15                             | 20                      |                                 |                      | 1                               | X2                              | 0                                 | 3   | 0010                      |  |
|                           |            |              |                       |                        |               | COLOR<br>CODE                | TRANS-<br>MIT | DIR.                  | SPEED<br>OR<br>FORCE | WET<br>BULB  | DRY<br>BULB | WET<br>BULB   |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              |                       |                        |               | 07                           | 50            | 15                    | 513                  | 257          | 150         | 144           | 6                               | 34  |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              |                       |                        |               | MESSINGER<br>TIME<br>HR 1/10 | CASI<br>NO.   | CARD<br>TYPE          | DEPTH (m)            | T °C         | S ‰         | SIGMA-T       | SPECIFIC VOLUME<br>ANOMALY-2187 | $\Sigma \Delta$<br>DTH. M.<br>X 10 <sup>3</sup> | SOUND<br>VELOCITY              | O <sub>2</sub> ml/l     | PO <sub>4</sub> -P<br>µg - ml/l | TOTAL-P<br>µg - ml/l | NO <sub>2</sub> -N<br>µg - ml/l | NO <sub>3</sub> -N<br>µg - ml/l | SiO <sub>2</sub> -Si<br>µg - ml/l | pH  | T °C                      |  |
| 170                       |            |              | STO                   | 0000                   | 1201          | 3329                         | 2528          | 0027032               | 0000                 | 14953        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | OBS                   | 0000                   | 1201          | 33285                        | 2528          |                       |                      | 14953        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
| 008                       |            |              | STO                   | 0010                   | 1161          | 3350                         | 2582          | 0021851               | 0024                 | 14949        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | OBS                   | 0010                   | 1161          | 33895                        | 2582          |                       |                      | 14949        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | STO                   | 0020                   | 1331          | 3460                         | 2604          | 0019875               | 0045                 | 15017        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | OBS                   | 0020                   | 1331          | 34595                        | 2604          |                       |                      | 15017        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | STO                   | 0030                   | 1581          | 3578                         | 2640          | 0016413               | 0063                 | 15114        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | OBS                   | 0030                   | 1581          | 35775                        | 2640          |                       |                      | 15114        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | STO                   | 0050                   | 1593          | 3600                         | 2655          | 0015135               | 0095                 | 15123        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | OBS                   | 0050                   | 1593          | 35995                        | 2655          |                       |                      | 15123        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | STO                   | 0075                   | 1521          | 3595                         | 2667          | 0014023               | 0131                 | 15104        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | OBS                   | 0075                   | 1521          | 35945                        | 2667          |                       |                      | 15104        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | STO                   | 0100                   | 1511          | 3595                         | 2669          | 0013888               | 0166                 | 15105        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | OBS                   | 0100                   | 1511          | 35945                        | 2669          |                       |                      | 15105        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | STO                   | 0125                   | 1501          | 3595                         | 2672          | 0013752               | 0201                 | 15106        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | OBS                   | 0125                   | 1501          | 35945                        | 2672          |                       |                      | 15106        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | STO                   | 0140                   | 1521          | 36015                        | 2672          |                       |                      | 15116        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | OBS                   | 0150                   | 1511          | 3600                         | 2673          | 0013677               | 0235                 | 15114        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | STO                   | 0150                   | 1511          | 35995                        | 2673          |                       |                      | 15114        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | OBS                   | 0200                   | 1408          | 3578                         | 2679          | 0013278               | 0303                 | 15087        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | STO                   | 0200                   | 1408          | 35775                        | 2679          |                       |                      | 15087        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | OBS                   | 0230                   | 1251          | 35390                        | 2681          |                       |                      | 15035        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | STO                   | 0250                   | 1293          | 3554                         | 2684          | 0012873               | 0368                 | 15054        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | OBS                   | 0250                   | 1293          | 35535                        | 2684          |                       |                      | 15054        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | STO                   | 0300                   | 1271          | 3556                         | 2690          | 0012434               | 0431                 | 15055        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | OBS                   | 0300                   | 1271          | 35555                        | 2690          |                       |                      | 15055        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | STO                   | 0350                   | 1241          | 35535                        | 2694          |                       |                      | 15053        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | OBS                   | 0400                   | 1181          | 3539                         | 2694          | 0012220               | 0554                 | 15039        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | STO                   | 0400                   | 1181          | 35385                        | 2694          |                       |                      | 15039        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | OBS                   | 0460                   | 1041          | 35095                        | 2697          |                       |                      | 14995        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | STO                   | 0485                   | 0923          | 35150                        | 2722          |                       |                      | 14957        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | OBS                   | 0500                   | 0961          | 3527                         | 2724          | 0009422               | 0663                 | 14975        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | STO                   | 0500                   | 0961          | 35265                        | 2724          |                       |                      | 14975        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | OBS                   | 0530                   | 0841          | 35025                        | 2725          |                       |                      | 14932        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | STO                   | 0540                   | 0871          | 35175                        | 2732          |                       |                      | 14947        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | OBS                   | 0588                   | 0781          | 35035                        | 2735          |                       |                      | 14919        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | STO                   | 0600                   | 0661          | 3488                         | 2740          | 0007804               | 0749                 | 14872        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | OBS                   | 0600                   | 0661          | 34880                        | 2740          |                       |                      | 14872        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | STO                   | 0610                   | 0602          | 34830                        | 2744          |                       |                      | 14850        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | OBS                   | 0620                   | 0711          | 35015                        | 2744          |                       |                      | 14897        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | STO                   | 0700                   | 0641          | 3500                         | 2752          | 0006823               | 0822                 | 14882        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | OBS                   | 0700                   | 0641          | 34995                        | 2752          |                       |                      | 14882        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | STO                   | 0800                   | 0571          | 3497                         | 2758          | 0006218               | 0887                 | 14871        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | OBS                   | 0800                   | 0571          | 34965                        | 2758          |                       |                      | 14871        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | STO                   | 0900                   | 0531          | 3500                         | 2766          | 0005549               | 0946                 | 14871        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | OBS                   | 0900                   | 0531          | 35000                        | 2766          |                       |                      | 14871        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | STO                   | 1000                   | 0502          | 3497                         | 2767          | 0005504               | 1001                 | 14876        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | OBS                   | 1000                   | 0502          | 34970                        | 2767          |                       |                      | 14876        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | STO                   | 1100                   | 0457          | 3498                         | 2773          | 0004937               | 1054                 | 14874        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | OBS                   | 1100                   | 0457          | 34975                        | 2773          |                       |                      | 14874        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | STO                   | 1200                   | 0431          | 3496                         | 2774          | 0004899               | 1103                 | 14880        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | OBS                   | 1200                   | 0431          | 34955                        | 2774          |                       |                      | 14880        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | STO                   | 1300                   | 0411          | 3495                         | 2775          | 0004811               | 1152                 | 14888        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | OBS                   | 1300                   | 0411          | 34945                        | 2775          |                       |                      | 14888        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | STO                   | 1400                   | 0411          | 3496                         | 2776          | 0004830               | 1200                 | 14905        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | OBS                   | 1400                   | 0411          | 34955                        | 2776          |                       |                      | 14905        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | STO                   | 1500                   | 0401          | 3496                         | 2777          | 0004790               | 1248                 | 14918        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |
|                           |            |              | OBS                   | 1500                   | 0401          | 34955                        | 2777          |                       |                      | 14918        |             |               |                                 |   |                                |                         |                                 |                      |                                 |                                 |                                   |     |                           |  |



TABLE XI.—Continued

| REFERENCE<br>CITY<br>CODE  | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MOON<br>PHASE | MARCOEN<br>SQUARE |               | STATION TIME<br>IGMT            |                                      |                        |                     | YEAR                            | ORIGINATOR'S         |                                 | DEPTH<br>TO<br>BOTTOM           | MAX<br>DEPTH<br>OF<br>SAMPL'S     | WAVE<br>OBSERVATIONS    |          |     |     | WEA-<br>THER<br>CODE | CLOUD<br>CODES |   | NODC<br>STATION<br>NUMBER |
|----------------------------|--------------|--------------------|---------------------|---------------|-------------------|---------------|---------------------------------|--------------------------------------|------------------------|---------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|-------------------------|----------|-----|-----|----------------------|----------------|---|---------------------------|
|                            |              |                    |                     |               | 16"               | 1"            | MO                              | DAT                                  | HR 1/10                | CRUISE<br>NO.       |                                 | STATION<br>NUMBER    | DIR.                            |                                 |                                   | HGT                     | PER      | SEA | TPH |                      | AMT            |   |                           |
|                            |              |                    |                     |               | 10"               | 1"            | MO                              | DAT                                  | HR 1/10                |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
| 318042                     | HT           | 4413 N             | 04105 W             |               | 149               | 41            | 07                              | 08                                   | 238                    | 1968                | 020                             | 011                  | 4572                            | 15                              | 16                                |                         |          |     | 2   | X4                   | 0              | 3 | 0011                      |
|                            |              |                    |                     |               | WATER             |               | WIND                            |                                      | BARO-<br>METER<br>(mm) |                     | AIR TEMP. °C                    |                      | VIL<br>CODE                     | NO. OBS.<br>DEPTHS              |                                   | SPECIAL<br>OBSERVATIONS |          |     |     |                      |                |   |                           |
|                            |              |                    |                     |               | COLOR<br>CODE     | TEMP.<br>(°C) | DIR.                            | SPED<br>OF<br>FORCE                  | METER<br>(mm)          | DBT<br>BULB         | WET<br>BULB                     |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            |              |                    |                     |               | DT                | 50            | 16                              | 515                                  | 247                    | 133                 | 133                             | 3                    | 35                              |                                 |                                   |                         |          |     |     |                      |                |   |                           |
| MESSAGE<br>TIME<br>HR 1/10 | CAST<br>NO.  | CARD<br>TYPE       | DEPTH (m)           | T °C          | S ‰               | SIGMA-T       | SPECIFIC VOLUME<br>ANOMALY-30°C | Σ Δ D<br>DTN, M<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY      | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l | NO <sub>2</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SIO <sub>4</sub> -Si<br>μg - ml/l | pH                      | S<br>DTN |     |     |                      |                |   |                           |
| 230                        |              | STO                | 0000                | 1161          | 3326              | 2533          | 0026545                         | 0000                                 | 14939                  |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            |              | OBS                | 0000                | 1261          | 33255             | 2533          |                                 |                                      | 14939                  |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
| 005                        |              | STD                | 0010                | 1201          | 3489              | 2652          | 0015242                         | 0021                                 | 14975                  |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            |              | OBS                | 0010                | 1201          |                   |               |                                 |                                      |                        |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            |              | STO                | 0020                | 1501          | 3584              | 2663          | 0014197                         | 0036                                 | 15088                  |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            |              | OBS                | 0020                | 1501          | 35840             | 2663          |                                 |                                      | 15088                  |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            |              | STD                | 0030                | 1618          | 3610              | 2657          | 0014855                         | 0050                                 | 15129                  |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            |              | OBS                | 0030                | 1618          | 36100             | 2657          |                                 |                                      | 15129                  |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            |              | OBS                | 0040                | 1630          | 36145             | 2658          |                                 |                                      | 15135                  |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            |              | STO                | 0050                | 1541          | 3612              | 2676          | 0013097                         | 0078                                 | 15109                  |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            |              | OBS                | 0050                | 1541          |                   |               |                                 |                                      |                        |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            |              | STO                | 0075                | 1539          | 3605              | 2671          | 0013679                         | 0112                                 | 15111                  |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            |              | OBS                | 0075                | 1539          | 36045             | 2671          |                                 |                                      | 15111                  |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            |              | STO                | 0100                | 1511          | 3598              | 2672          | 0013669                         | 0146                                 | 15106                  |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            |              | OBS                | 0100                | 1511          | 35975             | 2672          |                                 |                                      | 15106                  |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            |              | OBS                | 0110                | 1531          | 36095             | 2676          |                                 |                                      | 15115                  |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            |              | STO                | 0125                | 1501          | 3602              | 2677          | 0013242                         | 0179                                 | 15107                  |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            |              | OBS                | 0125                | 1501          | 36015             | 2677          |                                 |                                      | 15107                  |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            |              | STO                | 0150                | 1501          | 3605              | 2679          | 0013100                         | 0212                                 | 15112                  |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            |              | OBS                | 0150                | 1501          | 36045             | 2679          |                                 |                                      | 15112                  |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            |              | OBS                | 0170                | 1440          | 35915             | 2683          |                                 |                                      | 15094                  |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            |              | STO                | 0200                | 1401          | 3588              | 2688          | 0012406                         | 0276                                 | 15086                  |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            |              | OBS                | 0200                | 1401          | 35875             | 2688          |                                 |                                      | 15086                  |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            |              | STO                | 0250                | 1331          | 3570              | 2689          | 0012452                         | 0338                                 | 15069                  |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            |              | OBS                | 0250                | 1331          | 35695             | 2689          |                                 |                                      | 15069                  |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            |              | STO                | 0300                | 1301          | 3570              | 2695          | 0011997                         | 0399                                 | 15067                  |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            |              | OBS                | 0300                | 1301          | 35695             | 2695          |                                 |                                      | 15067                  |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            |              | OBS                | 0305                | 1261          | 35595             | 2695          |                                 |                                      | 15053                  |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            |              | OBS                | 0330                | 1284          | 35675             | 2697          |                                 |                                      | 15066                  |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            |              | OBS                | 0360                | 1261          | 35660             | 2700          |                                 |                                      | 15063                  |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            |              | OBS                | 0370                | 1231          | 35585             | 2700          |                                 |                                      | 15053                  |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            |              | STO                | 0400                | 1183          | 3553              | 2705          | 0011235                         | 0516                                 | 15041                  |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            | OBS          | 0400               | 1183                | 35525         | 2705              |               |                                 | 15041                                |                        |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            | OBS          | 0440               | 1121                | 35475         | 2713              |               |                                 | 15025                                |                        |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            | OBS          | 0460               | 1061                | 35355         | 2714              |               |                                 | 15006                                |                        |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            | STO          | 0500               | 1021                | 3530          | 2716              | 0010228       | 0623                            | 14997                                |                        |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            | OBS          | 0500               | 1021                | 35295         | 2716              |               |                                 | 14997                                |                        |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            | OBS          | 0520               | 0981                | 35295         | 2723              |               |                                 | 14986                                |                        |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            | OBS          | 0530               | 0921                | 35195         | 2726              |               |                                 | 14964                                |                        |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            | STO          | 0600               | 0791                | 3510          | 2738              | 0008129       | 0715                            | 14926                                |                        |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            | OBS          | 0600               | 0791                | 35095         | 2738              |               |                                 | 14926                                |                        |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            | STO          | 0700               | 0641                | 3500          | 2752              | 0006823       | 0789                            | 14882                                |                        |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            | OBS          | 0700               | 0641                | 34995         | 2752              |               |                                 | 14882                                |                        |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            | STO          | 0800               | 0551                | 3500          | 2763              | 0005728       | 0852                            | 14863                                |                        |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            | OBS          | 0800               | 0551                | 34995         | 2763              |               |                                 | 14863                                |                        |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            | STO          | 0900               | 0483                | 3497          | 2769              | 0005180       | 0907                            | 14851                                |                        |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            | OBS          | 0900               | 0483                | 34965         | 2769              |               |                                 | 14851                                |                        |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            | STO          | 1000               | 0461                | 3497          | 2771              | 0005007       | 0958                            | 14859                                |                        |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            | OBS          | 1000               | 0461                | 34965         | 2771              |               |                                 | 14859                                |                        |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            | STO          | 1100               | 0441                | 3498          | 2774              | 0004781       | 1007                            | 14868                                |                        |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            | OBS          | 1100               | 0441                | 34975         | 2774              |               |                                 | 14868                                |                        |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            | STO          | 1200               | 0421                | 3497          | 2776              | 0004697       | 1054                            | 14876                                |                        |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            | OBS          | 1200               | 0421                | 34965         | 2776              |               |                                 | 14876                                |                        |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            | STO          | 1300               | 0411                | 3497          | 2777              | 0004664       | 1101                            | 14888                                |                        |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            | OBS          | 1300               | 0411                | 34965         | 2777              |               |                                 | 14888                                |                        |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            | STO          | 1400               | 0395                | 3496          | 2778              | 0004622       | 1147                            | 14898                                |                        |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            | OBS          | 1400               | 0395                | 34955         | 2778              |               |                                 | 14898                                |                        |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            | STO          | 1500               | 0385                | 3495          | 2778              | 0004616       | 1193                            | 14911                                |                        |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |
|                            | OBS          | 1500               | 0385                | 34950         | 2778              |               |                                 | 14911                                |                        |                     |                                 |                      |                                 |                                 |                                   |                         |          |     |     |                      |                |   |                           |



TABLE XI.—Continued

| REFERENCE                   |             | SHIP<br>CODE | LATITUDE<br>° | LONGITUDE<br>° | MARSDEN<br>SQUARE | STATION TIME<br>(GMT) |                                |       | YEAR                                  | ORIGINATOR'S      |                     | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLE | WAVE<br>OBSERVATIONS            |                                 |                                   | WEA-<br>THER<br>CODE | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |      |
|-----------------------------|-------------|--------------|---------------|----------------|-------------------|-----------------------|--------------------------------|-------|---------------------------------------|-------------------|---------------------|---------------------------------|-------------------------------|---------------------------------|---------------------------------|-----------------------------------|----------------------|----------------|---------------------------|------|
| CTRY<br>CODE                | ID.<br>NO.  |              |               |                |                   | 10°                   | 1°                             | MO    |                                       | DAY               | HR. 1/10            |                                 |                               | CRUISE<br>NO.                   | STATION<br>NUMBER               | DIR                               |                      |                |                           | HGT  |
| 318042                      |             | HT           | 43595N        | 04103 W        |                   | 149                   | 31                             | 07 09 | 110                                   | 1968              | 020                 | 012                             | 4572                          | 15                              | 00                              |                                   | 0                    | X4             | 0 3                       | 0012 |
|                             |             |              |               |                |                   | WATER                 |                                | WIND  |                                       | BARO-<br>METER    |                     | AIR TEMP. °C                    |                               | VIS.<br>CODE                    | NO.<br>OBS.<br>DEPTHS           | SPECIAL<br>OBSERVATIONS           |                      |                |                           |      |
|                             |             |              |               |                |                   | COLOR<br>CODE         | TRANSL.<br>(m)                 | DIR.  | SPEED<br>OR<br>FORCE                  | WET<br>BULB       | DRY<br>BULB         | WET<br>BULB                     |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             |             |              |               |                |                   | DT                    | SO                             | 19    | 511                                   | 196               | 172                 | 167                             | 3                             | 27                              |                                 |                                   |                      |                |                           |      |
| MESSINGA<br>TIME<br>HR 1/10 | CAST<br>NO. | CARD<br>TYPE | DEPTH (m)     | T °C           | S ‰               | SIGMA-T               | SPECIFIC VOLUME<br>ANOMALY-20° |       | S Δ D<br>DYN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l          | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH                   | 3<br>CC        |                           |      |
| 111                         |             | STO          | 0000          | 1479           | 3440              | 2557                  | 0024241                        |       | 0000                                  | 15060             |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             |             | OBS          | 0000          | 1479           | 34395             | 2557                  |                                |       |                                       | 15060             |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
| J05                         |             | STO          | 0010          | 1500           | 3544              | 2633                  | 0017067                        |       | 0021                                  | 15081             |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             |             | OBS          | 0010          | 1500           |                   |                       |                                |       |                                       |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             |             | STO          | 0020          | 1572           | 3557              | 2657                  | 0014764                        |       | 0037                                  | 15112             |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             |             | OBS          | 0020          | 1572           | 35970             | 2657                  |                                |       |                                       | 15112             |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             |             | STO          | 0030          | 1560           | 3558              | 2661                  | 0014500                        |       | 0051                                  | 15110             |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             |             | OBS          | 0030          | 1560           | 35975             | 2661                  |                                |       |                                       | 15110             |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             |             | OBS          | 0040          | 1547           | 35975             | 2664                  |                                |       |                                       | 15107             |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             |             | STO          | 0050          | 1542           | 3599              | 2666                  | 0014081                        |       | 0080                                  | 15107             |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             |             | OBS          | 0050          | 1542           | 35988             | 2666                  |                                |       |                                       | 15107             |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             |             | STO          | 0075          | 1515           | 3596              | 2670                  | 0013786                        |       | 0115                                  | 15103             |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             |             | OBS          | 0075          | 1515           | 35960             | 2670                  |                                |       |                                       | 15103             |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             |             | STO          | 0100          | 1495           | 3593              | 2671                  | 0013695                        |       | 0149                                  | 15100             |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             |             | OBS          | 0100          | 1495           | 35925             | 2671                  |                                |       |                                       | 15100             |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             |             | STO          | 0125          | 1460           | 3588              | 2675                  | 0013401                        |       | 0183                                  | 15092             |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             |             | OBS          | 0125          | 1460           | 35875             | 2675                  |                                |       |                                       | 15092             |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             |             | STO          | 0150          | 1380           | 3574              | 2681                  | 0012858                        |       | 0216                                  | 15069             |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             |             | OBS          | 0150          | 1380           | 35735             | 2681                  |                                |       |                                       | 15069             |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             |             | OBS          | 0175          | 1360           | 35675             | 2681                  |                                |       |                                       | 15066             |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             |             | STO          | 0200          | 1293           | 3556              | 2685                  | 0012592                        |       | 0279                                  | 15046             |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             |             | OBS          | 0200          | 1293           | 35555             | 2685                  |                                |       |                                       | 15046             |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             |             | OBS          | 0225          | 1230           | 35445             | 2689                  |                                |       |                                       | 15027             |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             |             | STO          | 0250          | 1223           | 3546              | 2692                  | 0012117                        |       | 0341                                  | 15029             |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             |             | OBS          | 0250          | 1223           | 35455             | 2692                  |                                |       |                                       | 15029             |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             |             | STO          | 0300          | 1187           | 3539              | 2693                  | 0012082                        |       | 0402                                  | 15024             |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             |             | OBS          | 0300          | 1187           | 35385             | 2693                  |                                |       |                                       | 15024             |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             |             | STO          | 0400          | 1040           | 3525              | 2710                  | 0010665                        |       | 0515                                  | 14987             |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             |             | OBS          | 0400          | 1040           | 35250             | 2710                  |                                |       |                                       | 14987             |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             |             | STO          | 0500          | 0820           | 3504              | 2729                  | 0008801                        |       | 0613                                  | 14920             |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             | OBS         | 0500         | 0820          | 35040          | 2729              |                       |                                |       | 14920                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             | STO         | 0600         | 0658          | 3504           | 2752              | 0006618               |                                | 0690  | 14873                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             | OBS         | 0600         | 0658          | 35035          | 2752              |                       |                                |       | 14873                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             | STO         | 0700         | 0641          | 3512           | 2761              | 0005939               |                                | 0753  | 14884                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             | OBS         | 0700         | 0641          | 35115          | 2761              |                       |                                |       | 14884                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             | STO         | 0800         | 0530          | 3499           | 2765              | 0005525               |                                | 0810  | 14854                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             | OBS         | 0800         | 0530          | 34985          | 2765              |                       |                                |       | 14854                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             | STO         | 0900         | 0498          | 3500           | 2769              | 0005152               |                                | 0863  | 14858                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             | OBS         | 0900         | 0498          | 34995          | 2769              |                       |                                |       | 14858                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             | STO         | 1000         | 0457          | 3496           | 2771              | 0004993               |                                | 0914  | 14857                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             | OBS         | 1000         | 0457          | 34960          | 2771              |                       |                                |       | 14857                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             | STO         | 1100         | 0441          | 3496           | 2773              | 0004928               |                                | 0964  | 14867                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             | OBS         | 1100         | 0441          | 34955          | 2773              |                       |                                |       | 14867                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             | STO         | 1200         | 0429          | 3496           | 2774              | 0004874               |                                | 1013  | 14879                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             | OBS         | 1200         | 0429          | 34955          | 2774              |                       |                                |       | 14879                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             | STO         | 1300         | 0440          | 3496           | 2773              | 0005116               |                                | 1062  | 14900                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             | OBS         | 1300         | 0440          | 34955          | 2773              |                       |                                |       | 14900                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             | STO         | 1400         | 0411          | 3496           | 2776              | 0004830               |                                | 1112  | 14905                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             | OBS         | 1400         | 0411          | 34955          | 2776              |                       |                                |       | 14905                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             | STO         | 1500         | 0387          | 3493           | 2776              | 0004825               |                                | 1160  | 14911                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |
|                             | OBS         | 1500         | 0387          | 34925          | 2776              |                       |                                |       | 14911                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |                           |      |



TABLE XI.—Continued

| REFERENCE               | SHIP     | LATITUDE  | LONGITUDE | DATE           | MARSDEN SOLAR |         |                              | STATION TIME (GMT)              |                |                     | YEAR                         | ORIGINATOR'S      |                              | DEPTH TO BOTTOM              | MAX. DEPTH                     | WAVE OBSERVATIONS |     |     | WIND CODE | CLOUD CODES | NOOC STATION NUMBER |
|-------------------------|----------|-----------|-----------|----------------|---------------|---------|------------------------------|---------------------------------|----------------|---------------------|------------------------------|-------------------|------------------------------|------------------------------|--------------------------------|-------------------|-----|-----|-----------|-------------|---------------------|
|                         |          |           |           |                | 10'           | 1"      | MO                           | DAY                             | HR             | 1/10                |                              | CRUISE NO.        | STATION NUMBER               |                              |                                | DIR               | HGT | PER |           |             |                     |
| 319042                  | HT       | 4410 N    | 04114 W   | 149            | 41            | 07      | 09                           | 177                             | 1968           | 020                 | 013                          | 4572              | 15                           | 00                           |                                |                   | 0   | X2  | 0         | 3           | 0013                |
|                         |          |           |           | WATER          |               | WIND    |                              | BARO-METER (mb)                 |                | AIR TEMP. °C        |                              | NO. OBS.          |                              | SPECIAL OBSERVATIONS         |                                |                   |     |     |           |             |                     |
| COLOR CODE              |          | TEMP. (m) | DIR.      | SPEED OR FORCE | DRY BULB      |         | WET BULB                     |                                 | VIS. CODE      |                     | NO. OBS.                     |                   | SPECIAL OBSERVATIONS         |                              |                                |                   |     |     |           |             |                     |
| 01                      | 50       | 32        | 507       | 205            | 161           | 150     | 6                            | 38                              |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
| MESSAGE TIME OF HR 1/10 | CARD NO. | CARD TYPE | DEPTH (m) | T °C           | S ‰           | SIGMA-T | SPECIFIC VOLUME AND MALT-SIG | Σ Δ D DYN. M. ± 10 <sup>3</sup> | SOUND VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P μg - ml/l | TOTAL-P μg - ml/l | NO <sub>3</sub> -N μg - ml/l | NO <sub>2</sub> -N μg - ml/l | SiO <sub>2</sub> -Si μg - ml/l | pH                |     |     |           |             |                     |
| 177                     |          | STO       | 0000      | 1522           | 3442          | 2549    | 0024967                      | 0000                            | 15074          |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         |          | OBS       | 0000      | 1522           | 34418         | 2549    |                              |                                 | 15074          |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         |          | STO       | 0010      | 1583           | 3560          | 2626    | 0017706                      | 0021                            | 15109          |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         |          | OBS       | 0010      | 1583           | 35595         | 2626    |                              |                                 | 15109          |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         |          | STO       | 0020      | 1581           | 3600          | 2658    | 0014711                      | 0038                            | 15115          |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         |          | OBS       | 0020      | 1581           | 36004         | 2658    |                              |                                 | 15115          |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         |          | STO       | 0030      | 1572           | 3598          | 2658    | 0014745                      | 0052                            | 15113          |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         |          | OBS       | 0030      | 1572           | 35977         | 2658    |                              |                                 | 15113          |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         |          | STO       | 0050      | 1541           | 3598          | 2665    | 0014117                      | 0081                            | 15107          |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         |          | OBS       | 0050      | 1541           | 35980         | 2665    |                              |                                 | 15107          |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         |          | STO       | 0075      | 1530           | 3601          | 2670    | 0013770                      | 0116                            | 15108          |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         |          | OBS       | 0075      | 1530           | 36006         | 2670    |                              |                                 | 15108          |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         |          | STO       | 0100      | 1513           | 3598          | 2671    | 0013682                      | 0150                            | 15106          |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         |          | OBS       | 0100      | 1513           | 35979         | 2671    |                              |                                 | 15106          |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         |          | STO       | 0125      | 1460           | 3584          | 2672    | 0013693                      | 0185                            | 15092          |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         |          | OBS       | 0125      | 1460           | 35835         | 2672    |                              |                                 | 15092          |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         |          | STO       | 0150      | 1394           | 3573          | 2678    | 0013170                      | 0218                            | 15073          |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         |          | OBS       | 0150      | 1394           | 35731         | 2678    |                              |                                 | 15073          |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         |          | STO       | 0200      | 1317           | 3558          | 2682    | 0012914                      | 0283                            | 15054          |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         |          | OBS       | 0200      | 1317           | 35575         | 2682    |                              |                                 | 15054          |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | OBS      | 0215      | 1246      | 35440          | 2686          |         |                              | 15031                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | STO      | 0250      | 1216      | 3541           | 2689          | 0012336 | 0346                         | 15026                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | OBS      | 0250      | 1216      | 35407          | 2689          |         |                              | 15026                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | STO      | 0300      | 1168      | 3537           | 2695          | 0011870 | 0407                         | 15017                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | OBS      | 0300      | 1168      | 35366          | 2695          |         |                              | 15017                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | OBS      | 0385      | 0974      | 35167          | 2715          |         |                              | 14960                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | STO      | 0400      | 0883      | 3501           | 2717          | 0009826 | 0515                         | 14926                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | OBS      | 0400      | 0883      | 35009          | 2717          |         |                              | 14926                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | OBS      | 0415      | 0891      | 35071          | 2721          |         |                              | 14933                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | OBS      | 0420      | 0855      | 35015          | 2722          |         |                              | 14919                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | OBS      | 0430      | 0861      | 35035          | 2723          |         |                              | 14923                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | OBS      | 0460      | 0766      | 34895          | 2726          |         |                              | 14890                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | OBS      | 0465      | 0827      | 35015          | 2726          |         |                              | 14916                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | OBS      | 0495      | 0741      | 34895          | 2730          |         |                              | 14886                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | STO      | 0500      | 0733      | 3498           | 2737          | 0007975 | 0604                         | 14885                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | OBS      | 0500      | 0733      | 34975          | 2737          |         |                              | 14885                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | OBS      | 0560      | 0683      | 34993          | 2746          |         |                              | 14876                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | STO      | 0600      | 0669      | 3506           | 2753          | 0006574 | 0677                         | 14878                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | OBS      | 0600      | 0669      | 35062          | 2753          |         |                              | 14878                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | OBS      | 0635      | 0665      | 35095          | 2756          |         |                              | 14883                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | OBS      | 0655      | 0633      | 35070          | 2759          |         |                              | 14973                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | OBS      | 0670      | 0639      | 35080          | 2759          |         |                              | 14878                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | STO      | 0700      | 0581      | 3497           | 2757          | 0006184 | 0741                         | 14858                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | OBS      | 0700      | 0581      | 34970          | 2757          |         |                              | 14858                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | OBS      | 0710      | 0539      | 34935          | 2760          |         |                              | 14842                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | STO      | 0800      | 0503      | 3497           | 2767          | 0005278 | 0798                         | 14843                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | OBS      | 0800      | 0503      | 34971          | 2767          |         |                              | 14843                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | STO      | 0900      | 0481      | 3497           | 2770          | 0005103 | 0850                         | 14851                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | OBS      | 0900      | 0481      | 34972          | 2770          |         |                              | 14851                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | STO      | 1000      | 0443      | 3495           | 2772          | 0004926 | 0900                         | 14851                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | OBS      | 1000      | 0443      | 34945          | 2772          |         |                              | 14851                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | STO      | 1100      | 0430      | 3454           | 2773          | 0004869 | 0949                         | 14863                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | OBS      | 1100      | 0430      | 34944          | 2773          |         |                              | 14863                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | STO      | 1200      | 0420      | 3495           | 2774          | 0004824 | 0998                         | 14875                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | OBS      | 1200      | 0420      | 34946          | 2774          |         |                              | 14875                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | STO      | 1300      | 0431      | 3497           | 2775          | 0004924 | 1047                         | 14897                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | OBS      | 1300      | 0431      | 34965          | 2775          |         |                              | 14897                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | OBS      | 1340      | 0429      | 34965          | 2775          |         |                              | 14903                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | STO      | 1400      | 0400      | 3493           | 2775          | 0004870 | 1095                         | 14900                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | OBS      | 1400      | 0400      | 34930          | 2775          |         |                              | 14900                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | STO      | 1500      | 0390      | 3492           | 2775          | 0004938 | 1145                         | 14913                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |
|                         | OBS      | 1500      | 0390      | 34915          | 2775          |         |                              | 14913                           |                |                     |                              |                   |                              |                              |                                |                   |     |     |           |             |                     |



TABLE XII.—Observed and interpolated oceanographic data for stations taken by USCGC DALLAS at Ocean Station DELTA, 13 July–4 August 1968, prepared from NODC listing No. 31-1339 DG.

| REFERENCE<br>SHIP<br>CODE  | SHIP<br>NO. | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MARS<br>SQUARE | STATION TIME<br>(GMT) |              |                                | YEAR                                  | ORIGINATOR'S      |                     | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLES | WAVE<br>OBSERVATIONS            |                                 |                                   | WEA-<br>THER<br>CODE | CLOUD<br>CODES  | NODC<br>STATION<br>NUMBER |      |
|----------------------------|-------------|--------------------|---------------------|----------------|-----------------------|--------------|--------------------------------|---------------------------------------|-------------------|---------------------|---------------------------------|--------------------------------|---------------------------------|---------------------------------|-----------------------------------|----------------------|-----------------|---------------------------|------|
|                            |             |                    |                     |                | 10'                   | 1"           | MO DAY HR 1/10                 |                                       | CRUISE<br>NO.     | STATION<br>NUMBER   |                                 |                                | DIR                             | HGT                             | PER                               |                      |                 |                           | SEA  |
|                            |             |                    |                     |                | 10'                   | 1"           | MO DAY HR 1/10                 |                                       |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |
| 311339                     | OG          | 4359 N             | 04105 W             | 149            | 31                    | 07 13 145    | 1568                           | 021                                   | 001               |                     | 4663                            | 15                             | 04                              | 1                               | 2                                 |                      | X1              | 8 6                       | 0001 |
|                            |             |                    |                     |                |                       |              |                                |                                       |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |
|                            |             | WATER              |                     | WIND           |                       | AIR TEMP. °C |                                | BARO-<br>METER                        |                   | WET BULB            |                                 | VIS.<br>CODE                   | NO.<br>OBS.<br>DEPTHS           | SPECIAL<br>OBSERVATIONS         |                                   |                      |                 |                           |      |
|                            |             | COLOR<br>CODE      | TRAN-<br>SMI        | DIR.           | SPEED<br>OR<br>FORCE  | DRY<br>BULB  | WET<br>BULB                    | DRY<br>BULB                           | WET<br>BULB       | DRY<br>BULB         | WET<br>BULB                     |                                |                                 |                                 |                                   |                      |                 |                           |      |
|                            |             |                    |                     |                | 00                    | 500          | 200                            | 144                                   | 128               | 7                   | 14                              |                                |                                 |                                 |                                   |                      |                 |                           |      |
| MESSAGE<br>TIME<br>HR 1/10 | CASE<br>NO. | CARD<br>TYPE       | DEPTH (m)           | T °C           | S ‰                   | SIGMA-T      | SPECIFIC VOLUME<br>ANOMALY-107 | Σ Δ D<br>DTN. M.<br>X 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l           | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH                   | CO <sub>2</sub> | TEMP.                     |      |
| 145                        |             | STO                | 0000                | 1558           | 3360                  | 2479         | 0031712                        | 0000                                  | 15075             |                     |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |
|                            |             | OBS                | 0000                | 1558           | 33599                 | 2479         |                                |                                       | 15075             |                     |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |
|                            |             | STO                | 0010                | 1639           | 3488                  | 2558         | 0024145                        | 0028                                  | 15117             |                     |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |
| 145                        |             | STO                | 0020                | 1664           | 3578                  | 2617         | 0018626                        | 0049                                  | 15143             |                     |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |
|                            |             | OBS                | 0025                | 1694           | 36093                 | 2638         |                                |                                       | 15151             |                     |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |
|                            |             | STO                | 0030                | 1671           | 3611                  | 2645         | 0015957                        | 0067                                  | 15145             |                     |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |
| 145                        |             | STO                | 0050                | 1606           | 3619                  | 2666         | 0014036                        | 0097                                  | 15130             |                     |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |
|                            |             | OBS                | 0051                | 1604           | 36189                 | 2667         |                                |                                       | 15129             |                     |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |
|                            |             | STO                | 0075                | 1585           | 3619                  | 2671         | 0013648                        | 0131                                  | 15127             |                     |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |
| 145                        |             | OBS                | 0076                | 1584           | 36186                 | 2671         |                                |                                       | 15127             |                     |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |
|                            |             | STO                | 0100                | 1569           | 3616                  | 2673         | 0013554                        | 0165                                  | 15126             |                     |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |
|                            | 145         |                    | OBS                 | 0102           | 1568                  | 36160        | 2673                           |                                       |                   | 15126               |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |
|                            |             | STO                | 0125                | 1558           | 3616                  | 2675         | 0013437                        | 0199                                  | 15127             |                     |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |
|                            |             | STO                | 0150                | 1549           | 3615                  | 2677         | 0013357                        | 0232                                  | 15128             |                     |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |
| 145                        |             | OBS                | 0155                | 1548           | 36150                 | 2677         |                                |                                       | 15128             |                     |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |
|                            |             | STO                | 0200                | 1540           | 3615                  | 2679         | 0013326                        | 0299                                  | 15133             |                     |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |
|                            | 145         |                    | OBS                 | T0204          | 1538                  | 36146        | 2679                           |                                       |                   | 15133               |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |
|                            |             | STO                | 0250                | 1467           | 3598                  | 2682         | 0013157                        | 0365                                  | 15116             |                     |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |
|                            |             | STO                | 0300                | 1387           | 3582                  | 2687         | 0012809                        | 0430                                  | 15097             |                     |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |
| 145                        |             | OBS                | 0306                | 1377           | 35800                 | 2687         |                                |                                       | 15094             |                     |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |
|                            |             | STO                | 0400                | 1223           | 3559                  | 2702         | 0011517                        | 0552                                  | 15056             |                     |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |
|                            | 145         |                    | OBS                 | T0408          | 1207                  | 35570        | 2704                           |                                       |                   | 15051               |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |
|                            |             | STO                | 0500                | 0991           | 3527                  | 2720         | 0009894                        | 0659                                  | 14986             |                     |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |
| 145                        |             |                    | OBS                 | 0504           | 0979                  | 35253        | 2720                           |                                       |                   | 14982               |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |
|                            | 145         |                    | OBS                 | T0591          | 0682                  | 34942        | 2742                           |                                       |                   | 14880               |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |
|                            |             |                    | STO                 | 0600           | 0668                  | 3494         | 2744                           | 0007453                               | 0746              | 14876               |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |
| 145                        |             |                    | STO                 | 0700           | 0540                  | 3493         | 2759                           | 0005960                               | 0813              | 14841               |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |
|                            |             | OBS                | 0783                | 0476           | 34915                 | 2766         |                                |                                       | 14828             |                     |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |
|                            | 145         |                    | STO                 | 0800           | 0476                  | 3493         | 2767                           | 0005239                               | 0869              | 14831               |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |
|                            |             | STO                | 0900                | 0473           | 3498                  | 2771         | 0004942                        | 0920                                  | 14847             |                     |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |
| 145                        |             |                    | OBS                 | T0972          | 0469                  | 35005        | 2774                           |                                       |                   | 14858               |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |
|                            |             | STO                | 1000                | 0467           | 3501                  | 2774         | 0004789                        | 0968                                  | 14862             |                     |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |
|                            |             | STO                | 1100                | 0458           | 3500                  | 2775         | 0004787                        | 1016                                  | 14875             |                     |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |
| 145                        |             | STO                | 1200                | 0447           | 3500                  | 2776         | 0004755                        | 1064                                  | 14887             |                     |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |
|                            |             | STO                | 1300                | 0432           | 3500                  | 2778         | 0004666                        | 1111                                  | 14898             |                     |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |
|                            |             | STO                | 1400                | 0415           | 3500                  | 2779         | 0004539                        | 1157                                  | 14907             |                     |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |
| 145                        | OBS         | 1455               | 0404                | 35001          | 2780                  |              |                                | 14912                                 |                   |                     |                                 |                                |                                 |                                 |                                   |                      |                 |                           |      |

| REFERENCE                  |             | SHIP<br>CODE  | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MARS<br>SQUARE       | STATION TIME<br>(GMT) |                                |                                       | YEAR              | ORIGINATOR'S        |                                 | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPLES  | WAVE<br>OBSERVATIONS            |                                   |     | WEA-<br>THER<br>CODE | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |
|----------------------------|-------------|---------------|--------------------|---------------------|----------------------|-----------------------|--------------------------------|---------------------------------------|-------------------|---------------------|---------------------------------|-----------------------|---------------------------------|---------------------------------|-----------------------------------|-----|----------------------|----------------|---------------------------|
| CRUISE<br>NO.              | ID.<br>NO.  |               |                    |                     |                      | 10'                   | 1"                             | MO DAY HR 1/10                        |                   | CRUISE<br>NO.       | STATION<br>NUMBER               |                       |                                 | DIR                             | HGT                               | PER |                      |                |                           |
| 311339                     | OG          |               | 4400 N             | 04110 W             | 149                  | 41                    | 07 14 134                      | 1968                                  | 021               | 002                 |                                 | 4663                  | 14                              | 17                              |                                   | 6   | X4                   | 7 8            | 0002                      |
|                            |             |               |                    |                     |                      |                       |                                |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                            |             | WATER         |                    | WIND                |                      | AIR TEMP. °C          |                                | BARO-<br>METER                        |                   | WET BULB            |                                 | VIS.<br>CODE          | NO.<br>OBS.<br>DEPTHS           | SPECIAL<br>OBSERVATIONS         |                                   |     |                      |                |                           |
|                            |             | COLOR<br>CODE | TRAN-<br>SMI       | DIR.                | SPEED<br>OR<br>FORCE | DRY<br>BULB           | WET<br>BULB                    | DRY<br>BULB                           | WET<br>BULB       | DRY<br>BULB         | WET<br>BULB                     |                       |                                 |                                 |                                   |     |                      |                |                           |
|                            |             |               |                    |                     | 22                   | 535                   | 590                            | 189                                   | 183               | 6                   | 14                              |                       |                                 |                                 |                                   |     |                      |                |                           |
| MESSAGE<br>TIME<br>HR 1/10 | CARD<br>NO. | CARD<br>TYPE  | DEPTH (m)          | T °C                | S ‰                  | SIGMA-T               | SPECIFIC VOLUME<br>ANOMALY-107 | Σ Δ D<br>DTN. M.<br>X 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l  | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH  | CO <sub>2</sub>      | TEMP.          |                           |
| 134                        |             | STO           | 0000               | 1608                | 3436                 | 2526                  | 0027206                        | 0000                                  | 15100             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                            |             | OBS           | 0000               | 1608                | 34363                | 2526                  |                                |                                       | 15100             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                            |             | STO           | 0010               | 1555                | 3436                 | 2529                  | 0026970                        | 0027                                  | 15097             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 134                        |             | STO           | 0020               | 1581                | 3431                 | 2528                  | 0027075                        | 0054                                  | 15094             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                            |             | OBS           | 0021               | 1580                | 34297                | 2527                  |                                |                                       | 15094             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 134                        |             | STO           | 0030               | 1229                | 3400                 | 2578                  | 0022349                        | 0079                                  | 14977             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                            |             | OBS           | 0042               | 0983                | 33591                | 2621                  |                                |                                       | 14892             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 134                        |             | STO           | 0050               | 1058                | 3445                 | 2644                  | 0016075                        | 0117                                  | 14926             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                            |             | OBS           | 0063               | 1163                | 35008                | 2668                  |                                |                                       | 14972             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 134                        |             | STO           | 0075               | 1243                | 3528                 | 2674                  | 0013319                        | 0154                                  | 15005             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                            |             | OBS           | 0084               | 1287                | 35430                | 2677                  |                                |                                       | 15023             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 134                        |             | STO           | 0100               | 1289                | 3548                 | 2680                  | 0012797                        | 0187                                  | 15027             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                            |             | STO           | 0125               | 1253                | 3552                 | 2683                  | 0012637                        | 0218                                  | 15033             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 134                        |             | OBS           | 0128               | 1293                | 35523                | 2683                  |                                |                                       | 15034             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                            |             | STO           | 0150               | 1270                | 3550                 | 2686                  | 0012417                        | 0250                                  | 15029             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 134                        |             | OBS           | T0171              | 1253                | 35492                | 2689                  |                                |                                       | 15027             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                            |             | STO           | 0200               | 1246                | 3550                 | 2691                  | 0012065                        | 0311                                  | 15030             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 134                        |             | STO           | 0250               | 1234                | 3552                 | 2695                  | 0011823                        | 0371                                  | 15034             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                            |             | OBS           | 0255               | 1233                | 35526                | 2695                  |                                |                                       | 15034             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 134                        |             | STO           | 0300               | 0947                | 3500                 | 2706                  | 0010720                        | 0427                                  | 14934             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                            |             | OBS           | T0344              | 0779                | 34729                | 2711                  |                                |                                       | 14874             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 134                        |             | STO           | 0400               | 0769                | 3483                 | 2721                  | 0009404                        | 0528                                  | 14881             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                            |             | OBS           | 0424               | 0757                | 34863                | 2725                  |                                |                                       | 14881             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 134                        |             | STO           | 0500               | 0685                | 3452                 | 2740                  | 0007694                        | 0613                                  | 14866             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                            |             | OBS           | T0503              | 0682                | 34922                | 2740                  |                                |                                       | 14865             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 134                        |             | STO           | 0600               | 0567                | 3486                 | 2750                  | 0006680                        | 0665                                  | 14834             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                            |             | OBS           | 0643               | 0506                | 34848                | 2757                  |                                |                                       | 14823             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 134                        |             | STO           | 0700               | 0505                | 3486                 | 2758                  | 0006008                        | 0748                                  | 14826             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                            |             | STO           | 0800               | 0499                | 3490                 | 2762                  | 0005751                        | 0807                                  | 14840             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 134                        |             | OBS           | 0867               | 0454                | 34931                | 2765                  |                                |                                       | 14850             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                            |             | STO           | 0900               | 0492                | 3494                 | 2766                  | 0005510                        | 0864                                  | 14855             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 134                        |             | STO           | 1000               | 0484                | 3495                 | 2768                  | 0005400                        | 0918                                  | 14868             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                            |             | STO           | 1100               | 0475                | 3497                 | 2770                  | 0005274                        | 0971                                  | 14881             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 134                        |             | STO           | 1200               | 0466                | 3498                 | 2772                  | 0005145                        | 1024                                  | 14895             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                            |             | STO           | 1300               | 0456                | 3500                 | 2775                  | 0005006                        | 1074                                  | 14908             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 134                        | OBS         | T1361         | 0449               | 35009               | 2776                 |                       |                                | 14915                                 |                   |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |



TABLE XII.—Continued

| REFERENCE          |             | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | ELEVATION<br>m | MARSDEN<br>SQUARE      |                                 | STATION TIME<br>(GMT)     |                      | YEAR                     | ORIGINATOR'S                    |                       | DEPTH<br>BOTTOM                 | WAVE<br>OBSERVATIONS            |                                   |                         | WEA-<br>THER<br>CODE | CLOUD<br>CODIS |     | TO<br>STATION<br>NUMBER | NODC<br>STATION<br>NUMBER |     |
|--------------------|-------------|--------------|--------------------|---------------------|----------------|------------------------|---------------------------------|---------------------------|----------------------|--------------------------|---------------------------------|-----------------------|---------------------------------|---------------------------------|-----------------------------------|-------------------------|----------------------|----------------|-----|-------------------------|---------------------------|-----|
| CTRY<br>CODE       | ID.<br>NO.  |              |                    |                     |                | 10'                    | 1'                              | MO                        | DAY                  |                          | HR                              | 1/10                  |                                 | CRUISE<br>NO.                   | STATION<br>NUMBER                 | MAX. DEPTH<br>OF STMP'S |                      | DIR            | HGT |                         |                           | PER |
| 31                 | 1339        | 06           | 4357 N             | 04037 W             |                | 149                    | 30                              | 07                        | 15                   | 132                      | 1968                            | 021 003               | 4663                            | 14                              | 23                                | 1                       | 2                    | X1             | 6   | 6                       | 0003                      |     |
|                    |             |              |                    |                     |                | WATER<br>COLOR<br>CODE | TRANS-<br>MIT                   | DIR.                      | SPEED<br>OF<br>FORCE | BARO-<br>METER<br>(mbal) | AIR TEMP °C                     |                       | VIS<br>CODE                     | NO.<br>OBS.<br>DEPTH            | SPECIAL<br>OBSERVATIONS           |                         |                      |                |     |                         |                           |     |
|                    |             |              |                    |                     |                |                        |                                 |                           |                      |                          | 21                              | 521                   |                                 |                                 |                                   | 078                     | 161                  | 139            | 7   | 14                      |                           |     |
| MESSAGE<br>NR 1/10 | CAST<br>NO. | CARD<br>TYPE | DEPTH (m)          | T °C                | S ‰            | SIGMA-T                | SPECIFIC VOLUME<br>ANOMALY-1000 | S Δ D<br>DYN. M.<br>S 10' | SOUND<br>VELOCITY    | O <sub>2</sub> ml/l      | PO <sub>4</sub> -P<br>µg - ml/l | TOTAL-14<br>µg - ml/l | NO <sub>3</sub> -N<br>µg - ml/l | NO <sub>3</sub> -H<br>µg - ml/l | SiO <sub>4</sub> -Si<br>µg - ml/l | pH                      | S<br>C               |                |     |                         |                           |     |
| 132                |             | STD          | 0000               | 1808                | 3628           | 2625                   | 0017776                         | 0000                      | 15183                |                          |                                 |                       |                                 |                                 |                                   |                         |                      |                |     |                         |                           |     |
|                    |             | OBS          | 0000               | 1808                | 36282          | 2625                   |                                 |                           | 15183                |                          |                                 |                       |                                 |                                 |                                   |                         |                      |                |     |                         |                           |     |
|                    |             | STD          | 0010               | 1808                | 3628           | 2625                   | 0017816                         | 0018                      | 15184                |                          |                                 |                       |                                 |                                 |                                   |                         |                      |                |     |                         |                           |     |
| 132                |             | STD          | 0020               | 1807                | 3628           | 2625                   | 0017839                         | 0036                      | 15186                |                          |                                 |                       |                                 |                                 |                                   |                         |                      |                |     |                         |                           |     |
|                    |             | OBS          | 0022               | 1807                | 36277          | 2625                   |                                 |                           | 15186                |                          |                                 |                       |                                 |                                 |                                   |                         |                      |                |     |                         |                           |     |
|                    |             | STD          | 0030               | 1758                | 3627           | 2627                   | 0017731                         | 0053                      | 15184                |                          |                                 |                       |                                 |                                 |                                   |                         |                      |                |     |                         |                           |     |
| 132                |             | OBS          | 0045               | 1772                | 36265          | 2633                   |                                 |                           | 15179                |                          |                                 |                       |                                 |                                 |                                   |                         |                      |                |     |                         |                           |     |
|                    |             | STD          | 0050               | 1760                | 3628           | 2637                   | 0016836                         | 0088                      | 15177                |                          |                                 |                       |                                 |                                 |                                   |                         |                      |                |     |                         |                           |     |
|                    |             | OBS          | 0067               | 1714                | 36293          | 2649                   |                                 |                           | 15166                |                          |                                 |                       |                                 |                                 |                                   |                         |                      |                |     |                         |                           |     |
| 132                |             | STD          | 0075               | 1686                | 3627           | 2654                   | 0015289                         | 0128                      | 15159                |                          |                                 |                       |                                 |                                 |                                   |                         |                      |                |     |                         |                           |     |
|                    |             | OBS          | 0090               | 1642                | 36227          | 2661                   |                                 |                           | 15148                |                          |                                 |                       |                                 |                                 |                                   |                         |                      |                |     |                         |                           |     |
|                    |             | STD          | 0100               | 1620                | 3620           | 2664                   | 0014398                         | 0165                      | 15142                |                          |                                 |                       |                                 |                                 |                                   |                         |                      |                |     |                         |                           |     |
| 132                |             | STD          | 0125               | 1576                | 3614           | 2670                   | 0013946                         | 0201                      | 15132                |                          |                                 |                       |                                 |                                 |                                   |                         |                      |                |     |                         |                           |     |
|                    |             | OBS          | 0134               | 1565                | 36124          | 2671                   |                                 |                           | 15130                |                          |                                 |                       |                                 |                                 |                                   |                         |                      |                |     |                         |                           |     |
|                    |             | STD          | 0150               | 1558                | 3612           | 2672                   | 0013778                         | 0235                      | 15130                |                          |                                 |                       |                                 |                                 |                                   |                         |                      |                |     |                         |                           |     |
| 132                |             | OBS          | T0179              | 1542                | 36103          | 2675                   |                                 |                           | 15130                |                          |                                 |                       |                                 |                                 |                                   |                         |                      |                |     |                         |                           |     |
|                    |             | STD          | 0200               | 1530                | 3608           | 2675                   | 0013619                         | 0304                      | 15129                |                          |                                 |                       |                                 |                                 |                                   |                         |                      |                |     |                         |                           |     |
|                    |             | STD          | 0250               | 1464                | 3599           | 2679                   | 0013444                         | 0371                      | 15122                |                          |                                 |                       |                                 |                                 |                                   |                         |                      |                |     |                         |                           |     |
| 132                |             | OBS          | 0269               | 1460                | 35944          | 2680                   |                                 |                           | 15117                |                          |                                 |                       |                                 |                                 |                                   |                         |                      |                |     |                         |                           |     |
|                    |             | STD          | 0300               | 1394                | 3580           | 2684                   | 0013098                         | 0438                      | 15099                |                          |                                 |                       |                                 |                                 |                                   |                         |                      |                |     |                         |                           |     |
|                    |             | OBS          | 0358               | 1301                | 35631          | 2690                   |                                 |                           | 15076                |                          |                                 |                       |                                 |                                 |                                   |                         |                      |                |     |                         |                           |     |
| 132                |             | STD          | 0400               | 1274                | 3563           | 2695                   | 0012211                         | 0564                      | 15073                |                          |                                 |                       |                                 |                                 |                                   |                         |                      |                |     |                         |                           |     |
|                    |             | OBS          | 0449               | 1232                | 35585          | 2700                   |                                 |                           | 15067                |                          |                                 |                       |                                 |                                 |                                   |                         |                      |                |     |                         |                           |     |
|                    |             | STD          | 0500               | 1118                | 3545           | 2711                   | 0010824                         | 0680                      | 15034                |                          |                                 |                       |                                 |                                 |                                   |                         |                      |                |     |                         |                           |     |
| 132                |             | OBS          | 0539               |                     | 35352          |                        |                                 |                           |                      |                          |                                 |                       |                                 |                                 |                                   |                         |                      |                |     |                         |                           |     |
|                    |             | STD          | 0600               | 0932                | 3524           | 2727                   | 0009325                         | 0780                      | 14981                |                          |                                 |                       |                                 |                                 |                                   |                         |                      |                |     |                         |                           |     |
|                    |             | STD          | 0700               | 0795                | 3510           | 2738                   | 0008330                         | 0869                      | 14944                |                          |                                 |                       |                                 |                                 |                                   |                         |                      |                |     |                         |                           |     |
| 132                |             | OBS          | 0722               | 0771                | 35077          | 2740                   |                                 |                           | 14938                |                          |                                 |                       |                                 |                                 |                                   |                         |                      |                |     |                         |                           |     |
|                    |             | STD          | 0800               | 0725                | 3505           | 2744                   | 0007794                         | 0949                      | 14933                |                          |                                 |                       |                                 |                                 |                                   |                         |                      |                |     |                         |                           |     |
|                    |             | STD          | 0900               | 0669                | 3503           | 2751                   | 0007263                         | 1024                      | 14927                |                          |                                 |                       |                                 |                                 |                                   |                         |                      |                |     |                         |                           |     |
| 132                |             | OBS          | 0906               | 0666                | 35027          | 2751                   |                                 |                           | 14927                |                          |                                 |                       |                                 |                                 |                                   |                         |                      |                |     |                         |                           |     |
|                    |             | STD          | 1000               | 0616                | 3501           | 2756                   | 0006783                         | 1095                      | 14923                |                          |                                 |                       |                                 |                                 |                                   |                         |                      |                |     |                         |                           |     |
|                    |             | STD          | 1100               | 0565                | 3499           | 2761                   | 0006337                         | 1160                      | 14918                |                          |                                 |                       |                                 |                                 |                                   |                         |                      |                |     |                         |                           |     |
| 132                |             | STD          | 1200               | 0518                | 3498           | 2766                   | 0005877                         | 1221                      | 14916                |                          |                                 |                       |                                 |                                 |                                   |                         |                      |                |     |                         |                           |     |
|                    |             | STD          | 1300               | 0473                | 3497           | 2770                   | 0005447                         | 1278                      | 14914                |                          |                                 |                       |                                 |                                 |                                   |                         |                      |                |     |                         |                           |     |
|                    |             | OBS          | T1372              | 0442                | 34962          | 2773                   |                                 |                           | 14913                |                          |                                 |                       |                                 |                                 |                                   |                         |                      |                |     |                         |                           |     |

| REFERENCE   |            | SHIP<br>CODE | LATITUDE<br>° 1/10  | LONGITUDE<br>° 1/10      | MOON<br>CODE | MARSDEN<br>SOLAR<br>CODE |             | STATION TIME<br>(GMT)              |                           | YEAR              | ORIGINATOR'S<br>STATION NUMBER |                                 | DEPTH<br>BOTTOM      | MAX.<br>DEPTH<br>OF<br>STATION  | WAVE<br>OBSERVATIONS            |                                   |     | WEA-<br>THER<br>CODE | CLOUD<br>CODES | MOON<br>STATION<br>NUMBER |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
|---|------------|--------------|---------------------|--------------------------|--------------|--------------------------|-------------|------------------------------------|---------------------------|-------------------|--------------------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|-----|----------------------|----------------|---------------------------|-------|-----|------|--|--------------------------|-------------|--|-------------|----------------------|-------------------------|-------|--------|------|---------------------|-----|-----|----|-----|-----|-----|-----|---|----|--|--|--|--|
| REF<br>CODE   | ID.<br>NO. |              |                     |                          |              | 1ST                      | 2ND         | MO                                 | DAY                       |                   | HR                             | 1/10                            |                      |                                 | CRUISE                          | STATION<br>NO.                    | DIR |                      |                |                           | HGT   | PER | SEA  |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
| 311339  | 06         | 4340         | N                   | 0+050                    | W            | 14                       | 30          | 07                                 | 16                        | 186               | 1968                           | 021 004                         | 4663                 | 16                              | 25                              | 6                                 | 2   | X1                   | 8              | 6                         | 0004  |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
| <table><tr><th colspan="2">WATER</th><th colspan="2">WIND</th><th rowspan="2">BARO-<br/>METER<br/>(INCH)</th><th colspan="2">AIR TEMP °C</th><th rowspan="2">VIL<br/>CODE</th><th rowspan="2">NO.<br/>OBS.<br/>DEPTH</th><th rowspan="2">SPECIAL<br/>OBSERVATIONS</th></tr><tr><th>COLOR</th><th>TRANS.</th><th>DIR.</th><th>SPED<br/>OF<br/>FORCE</th><th>DRY</th><th>WET</th></tr><tr><td>22</td><td>533</td><td>051</td><td>178</td><td>150</td><td>7</td><td>14</td><td></td><td></td><td></td><td></td></tr></table> |            |              |                     |                          |              |                          |             |                                    |                           |                   |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           | WATER |     | WIND |  | BARO-<br>METER<br>(INCH) | AIR TEMP °C |  | VIL<br>CODE | NO.<br>OBS.<br>DEPTH | SPECIAL<br>OBSERVATIONS | COLOR | TRANS. | DIR. | SPED<br>OF<br>FORCE | DRY | WET | 22 | 533 | 051 | 178 | 150 | 7 | 14 |  |  |  |  |
| WATER   |            | WIND         |                     | BARO-<br>METER<br>(INCH) | AIR TEMP °C  |                          | VIL<br>CODE | NO.<br>OBS.<br>DEPTH               | SPECIAL<br>OBSERVATIONS   |                   |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
| COLOR   | TRANS.     | DIR.         | SPED<br>OF<br>FORCE |                          | DRY          | WET                      |             |                                    |                           |                   |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
| 22  | 533        | 051          | 178                 | 150                      | 7            | 14                       |             |                                    |                           |                   |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
| MISSING<br>TIME<br>HR   | 1/10       | CAST<br>NO.  | CARD<br>TYPE        | DEPTH (m)                | T °C         | S °/4                    | SIGMA-T     | SPECIFIC VOLUME<br>AND (MALT-1517) | Σ Δ D<br>OWN, M<br>(± 10) | SOUND<br>VELOCITY | O <sub>2</sub> ml/l            | PO <sub>4</sub> -P<br>μg - 0/1/ | TOTAL-P<br>μg - 0/1/ | NO <sub>3</sub> -N<br>μg - 0/1/ | NO <sub>3</sub> -N<br>μg - 0/1/ | SiO <sub>4</sub> -Si<br>μg - 0/1/ | PH  | CHL<br>CO            |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
| 186   |            |              | STD                 | 0000                     | 1802         | 3622                     | 2621        | 0018121                            | 0000                      | 15180             |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
|   |            |              | DBS                 | 0000                     | 1802         | 36215                    | 2621        |                                    |                           | 15180             |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
|   |            |              | STD                 | 0010                     | 1801         | 3622                     | 2622        | 0018117                            | 0018                      | 15182             |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
| 186   |            |              | STD                 | 0020                     | 1801         | 3622                     | 2622        | 0018118                            | 0036                      | 15183             |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
|   |            |              | DBS                 | 0027                     | 1800         | 36222                    | 2622        |                                    |                           | 15184             |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
|   |            |              | STD                 | 0030                     | 1796         | 3622                     | 2623        | 0018070                            | 0054                      | 15183             |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
| 186   |            |              | STD                 | 0050                     | 1765         | 3618                     | 2627        | 0017801                            | 0090                      | 15178             |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
|   |            |              | DBS                 | 0053                     | 1765         | 36170                    | 2627        |                                    |                           | 15177             |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
|   |            |              | STD                 | 0075                     | 1645         | 3622                     | 2660        | 0014728                            | 0131                      | 15146             |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
| 186   |            |              | DBS                 | 0080                     | 1626         | 36221                    | 2664        |                                    |                           | 15141             |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
|   |            |              | STD                 | 0100                     | 1587         | 3617                     | 2665        | 0013889                            | 0167                      | 15132             |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
|   |            |              | DBS                 | 0106                     | 1578         | 36164                    | 2671        |                                    |                           | 15130             |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
| 186   |            |              | STD                 | 0125                     | 1566         | 3616                     | 2673        | 0013611                            | 0201                      | 15129             |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
|   |            |              | STD                 | 0150                     | 1555         | 3615                     | 2675        | 0013524                            | 0235                      | 15130             |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
|   |            |              | DBS                 | 0160                     | 1553         | 36142                    | 2675        |                                    |                           | 15131             |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
| 186   |            |              | STD                 | 0200                     | 1556         | 3617                     | 2676        | 0013530                            | 0303                      | 15139             |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
|   |            |              | DBS                 | 0212                     | 1557         | 36173                    | 2677        |                                    |                           | 15141             |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
|   |            |              | STD                 | 0250                     | 1527         | 3609                     | 2677        | 0013636                            | 0370                      | 15137             |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
| 186   |            |              | STD                 | 0300                     | 1478         | 3598                     | 2679        | 0013539                            | 0438                      | 15128             |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
|   |            |              | DBS                 | 0318                     | 1457         | 35935                    | 2680        |                                    |                           | 15124             |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
|   |            |              | STD                 | 0400                     | 1339         | 3572                     | 2689        | 0012845                            | 0570                      | 15094             |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
| 186   |            |              | DBS                 | T0424                    | 1307         | 35674                    | 2692        |                                    |                           | 15089             |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
|   |            |              | STD                 | 0500                     | 1224         | 3556                     | 2700        | 0012011                            | 0695                      | 15072             |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
|   |            |              | DBS                 | 0530                     | 1180         | 35509                    | 2704        |                                    |                           | 15061             |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
| 186   |            |              | STD                 | 0600                     | 1043         | 3535                     | 2717        | 0010434                            | 0807                      | 15022             |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
|   |            |              | DBS                 | 0636                     | 0977         | 35288                    | 2724        |                                    |                           | 15004             |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
|   |            |              | STD                 | 0700                     | 0666         | 3522                     | 2736        | 0008580                            | 0902                      | 14972             |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
| 186   |            |              | STD                 | 0800                     | 0720         | 3513                     | 2751        | 0007132                            | 0980                      | 14932             |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
|   |            |              | DBS                 | 0851                     | 0658         | 35094                    | 2757        |                                    |                           | 14916             |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
|   |            |              | STD                 | 0900                     | 0614         | 3506                     | 2760        | 0006249                            | 1047                      | 14906             |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
| 186   |            |              | STD                 | 1000                     | 0535         | 3501                     | 2766        | 0005651                            | 1107                      | 14890             |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
|   |            |              | DBS                 | T1065                    | 0492         | 34986                    | 2769        |                                    |                           | 14883             |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
|   |            |              | STD                 | 1100                     | 0427         | 3499                     | 2770        | 0005295                            | 1152                      | 14886             |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
| 186   |            |              | STD                 | 1200                     | 0471         | 3499                     | 2772        | 0005200                            | 1214                      | 14897             |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
|   |            |              | STD                 | 1300                     | 0455         | 3498                     | 2774        | 0005100                            | 1266                      | 14907             |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
|   |            |              | STD                 | 1400                     | 0439         | 3498                     | 2775        | 0004988                            | 1316                      | 14917             |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
| 186   |            |              | STD                 | 1500                     | 0423         | 3498                     | 2777        | 0004879                            | 1365                      | 14927             |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |
|   |            |              | DBS                 | T1613                    | 0405         | 34982                    | 2779        |                                    |                           | 14939             |                                |                                 |                      |                                 |                                 |                                   |     |                      |                |                           |       |     |      |  |                          |             |  |             |                      |                         |       |        |      |                     |     |     |    |     |     |     |     |   |    |  |  |  |  |



TABLE XII.—Continued

| REFERENCE                  |             | SHIP<br>CODE  | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MARS<br>DEN<br>SQUARE | STATION TIME<br>(GMT) | YEAR                           | ORIGINATOR'S                          |                   | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPL'S  | WAVE<br>OBSERVATIONS | WEA-<br>THER<br>CODE            | CLOUD<br>CODES                  | NODC<br>STATION<br>NUMBER         |    |         |          |   |   |      |
|----------------------------|-------------|---------------|--------------------|---------------------|-----------------------|-----------------------|--------------------------------|---------------------------------------|-------------------|-----------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|----|---------|----------|---|---|------|
| CITY<br>CODE               | ID.<br>NO.  |               |                    |                     |                       |                       |                                | CRUISE<br>NO.                         | STATION<br>NUMBER |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
| 10'                        | 1"          |               |                    |                     |                       |                       |                                |                                       |                   |                       |                                 |                      |                                 |                                 |                                   | MO | DAY     | HR. 1/10 |   |   |      |
| 311339                     | DG          | 4330 N        | 04050 W            | D                   | 149                   | 20                    | 07                             | 18                                    | 134               | 1968                  | 021                             | 005                  | 4663                            | 14                              | 27                                | 2  | 2       | X1       | 3 | 5 | 0005 |
|                            |             | WATER         |                    | WIND                |                       | BARO-<br>METER        |                                | AIR TEMP. °C                          |                   | VIL CODE              |                                 | NO. OBS.<br>DEPTHS   |                                 | SPECIAL<br>OBSERVATIONS         |                                   |    |         |          |   |   |      |
|                            |             | COLOR<br>CODE | TRANS<br>(m)       | DIR.                | SPEED<br>OF<br>FORCE  | DRY<br>BULB           | WET<br>BULB                    | DRY<br>BULB                           | WET<br>BULB       | DRY<br>BULB           | WET<br>BULB                     |                      |                                 |                                 |                                   |    |         |          |   |   |      |
|                            |             | 28            | 510                | 122                 | 172                   | 144                   | 7                              | 14                                    |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
| MESSING<br>TIME<br>HR 1/10 | CAST<br>NO. | CARO<br>TYPE  | DEPTH (m)          | T °C                | S ‰                   | SIGMA-T               | SPECIFIC VOLUME<br>ANOMALY-267 | Σ Δ C<br>DYN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l   | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l | NO <sub>2</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH | S<br>°C |          |   |   |      |
|                            |             |               |                    |                     |                       |                       |                                |                                       |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
| 134                        | STO         | 0000          | 1740               | 3585                | 2608                  | 0019364               | 0000                           | 15158                                 |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
|                            | OBS         | 0000          | 1740               | 35845               | 2608                  |                       |                                | 15158                                 |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
|                            | STO         | 0010          | 1739               | 3586                | 2609                  | 0019300               | 0019                           | 15159                                 |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
| 134                        | STO         | 0020          | 1738               | 3586                | 2610                  | 0019240               | 0039                           | 15160                                 |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
|                            | OBS         | 0026          | 1737               | 35870               | 2611                  |                       |                                | 15161                                 |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
|                            | STO         | 0030          | 1740               | 3589                | 2612                  | 0019145               | 0058                           | 15163                                 |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
| 134                        | STO         | 0050          | 1757               | 3601                | 2617                  | 0018718               | 0096                           | 15173                                 |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
|                            | OBS         | 0053          | 1759               | 36027               | 2618                  |                       |                                | 15174                                 |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
|                            | STO         | 0075          | 1683               | 3625                | 2653                  | 0015367               | 0138                           | 15158                                 |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
| 134                        | OBS         | 0081          | 1667               | 36274               | 2659                  |                       |                                | 15154                                 |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
|                            | STO         | 0100          | 1629               | 3622                | 2664                  | 0014453               | 0176                           | 15145                                 |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
|                            | OBS         | 0106          | 1619               | 36204               | 2665                  |                       |                                | 15143                                 |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
| 134                        | STO         | 0125          | 1600               | 3618                | 2667                  | 0014182               | 0211                           | 15140                                 |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
|                            | STO         | 0150          | 1578               | 3616                | 2671                  | 0013923               | 0246                           | 15137                                 |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
|                            | OBS         | 0160          | 1571               | 36146               | 2671                  |                       |                                | 15136                                 |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
| 134                        | STO         | 0200          | 1553               | 3612                | 2673                  | 0013826               | 0316                           | 15137                                 |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
|                            | OBS         | 0211          | 1546               | 36107               | 2674                  |                       |                                | 15137                                 |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
|                            | STO         | 0250          | 1500               | 3602                | 2678                  | 0013566               | 0384                           | 15127                                 |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
| 134                        | STO         | 0300          | 1442               | 3591                | 2682                  | 0013290               | 0451                           | 15116                                 |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
|                            | OBS         | 0311          | 1429               | 35883               | 2682                  |                       |                                | 15113                                 |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
|                            | STO         | 0400          | 1326               | 3571                | 2691                  | 0012656               | 0581                           | 15092                                 |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
| 134                        | OBS         | T0412         | 1312               | 35686               | 2692                  |                       |                                | 15089                                 |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
|                            | STO         | 0500          | 1204               | 3556                | 2703                  | 0011628               | 0703                           | 15065                                 |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
|                            | OBS         | 0508          | 1191               | 35544               | 2705                  |                       |                                | 15062                                 |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
| 134                        | STO         | 0600          | 1003               | 3531                | 2721                  | 0010023               | 0811                           | 15007                                 |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
|                            | OBS         | T0603         | 0997               | 35308               | 2722                  |                       |                                | 15006                                 |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
|                            | STO         | 0700          | 0805               | 3514                | 2740                  | 0008193               | 0902                           | 14948                                 |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
| 134                        | OBS         | 0795          | 0665               | 35037               | 2752                  |                       |                                | 14908                                 |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
|                            | STO         | 0800          | 0661               | 3504                | 2752                  | 0006953               | 0978                           | 14907                                 |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
|                            | STO         | 0900          | 0582               | 3502                | 2761                  | 0006087               | 1043                           | 14892                                 |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
| 134                        | OBS         | T0976         | 0532               | 35010               | 2767                  |                       |                                | 14885                                 |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
|                            | STO         | 1000          | 0526               | 3501                | 2767                  | 0005526               | 1101                           | 14886                                 |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
|                            | STO         | 1100          | 0500               | 3500                | 2770                  | 0005365               | 1155                           | 14892                                 |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
| 134                        | STO         | 1200          | 0473               | 3499                | 2772                  | 0005199               | 1208                           | 14898                                 |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
|                            | STO         | 1300          | 0447               | 3498                | 2774                  | 0005029               | 1259                           | 14904                                 |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
|                            | STO         | 1400          | 0421               | 3498                | 2777                  | 0004782               | 1308                           | 14910                                 |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |
| 134                        | OBS         | T1435         | 0412               | 34979               | 2778                  |                       |                                | 14912                                 |                   |                       |                                 |                      |                                 |                                 |                                   |    |         |          |   |   |      |

| REFERENCE                  |             | SHIP<br>CODE  | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MARS<br>DEN<br>SQUARE | STATION TIME<br>(GMT) |                                |                                       | YEAR              | ORIGINATOR'S        |                                 | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPL'S  | WAVE<br>OBSERVATIONS            |                                   |                   | WEA-<br>THER<br>CODE | CLOUD<br>CODES |     | NODC<br>STATION<br>NUMBER |      |
|----------------------------|-------------|---------------|--------------------|---------------------|-----------------------|-----------------------|--------------------------------|---------------------------------------|-------------------|---------------------|---------------------------------|-----------------------|---------------------------------|---------------------------------|-----------------------------------|-------------------|----------------------|----------------|-----|---------------------------|------|
| CITY<br>CODE               | ID.<br>NO.  |               |                    |                     |                       | 1'                    | 1"                             | MO                                    |                   | DAY                 | HR                              |                       |                                 | 1/10                            | CRUISE<br>NO.                     | STATION<br>NUMBER |                      | DIR.           | NGR |                           | PER  |
| 311339                     | DG          | 4325 N        | 04010 W            | D                   | 149                   | 30                    | 07                             | 19                                    | 133               | 1968                | 021                             | 006                   | 4663                            | 14                              | 31                                | 1                 | 2                    | X1             | 5   | 7                         | 0006 |
|                            |             | WATER         |                    | WIND                |                       | BARO-<br>METER        |                                | AIR TEMP. °C                          |                   | VIL CODE            |                                 | NO. OBS.<br>DEPTHS    |                                 | SPECIAL<br>OBSERVATIONS         |                                   |                   |                      |                |     |                           |      |
|                            |             | COLOR<br>CODE | TRANS<br>(m)       | DIR.                | SPEED<br>OF<br>FORCE  | DRY<br>BULB           | WET<br>BULB                    | DRY<br>BULB                           | WET<br>BULB       | DRY<br>BULB         | WET<br>BULB                     | DRY<br>BULB           | WET<br>BULB                     |                                 |                                   |                   |                      |                |     |                           |      |
|                            |             |               |                    |                     |                       | 32                    |                                | 508                                   |                   | 166                 |                                 | 156                   |                                 | 133                             |                                   | 7                 |                      |                |     |                           |      |
| MESSING<br>TIME<br>HR 1/10 | CAST<br>NO. | CARO<br>TYPE  | DEPTH (m)          | T °C                | S ‰                   | SIGMA-T               | SPECIFIC VOLUME<br>ANOMALY-267 | Σ Δ C<br>DYN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l  | NO <sub>2</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH                | S<br>°C              |                |     |                           |      |
|                            |             |               |                    |                     |                       |                       |                                |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                |     |                           |      |
| 133                        | STO         | 0000          | 1568               | 3519                | 2598                  | 0020335               | 0000                           | 15098                                 |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                |     |                           |      |
|                            | OBS         | 0000          | 1566               | 35186               | 2598                  |                       |                                | 15098                                 |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                |     |                           |      |
|                            | STO         | 0010          | 1570               | 3523                | 2601                  | 0020109               | 0020                           | 15100                                 |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                |     |                           |      |
| 133                        | STO         | 0020          | 1575               | 3527                | 2603                  | 0019949               | 0040                           | 15104                                 |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                |     |                           |      |
|                            | OBS         | 0021          | 1576               | 35272               | 2603                  |                       |                                | 15104                                 |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                |     |                           |      |
|                            | STO         | 0030          | 1587               | 3555                | 2622                  | 0018190               | 0059                           | 15113                                 |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                |     |                           |      |
| 133                        | OBS         | 0045          | 1606               | 35784               | 2635                  |                       |                                | 15124                                 |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                |     |                           |      |
|                            | STO         | 0050          | 1554               | 3572                | 2642                  | 0016293               | 0094                           | 15108                                 |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                |     |                           |      |
|                            | OBS         | 0068          | 1425               | 35574               | 2659                  |                       |                                | 15068                                 |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                |     |                           |      |
| 133                        | STO         | 0075          | 1419               | 3560                | 2663                  | 0014417               | 0132                           | 15068                                 |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                |     |                           |      |
|                            | OBS         | 0091          | 1398               | 35622               | 2669                  |                       |                                | 15064                                 |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                |     |                           |      |
|                            | STO         | 0100          | 1367               | 3556                | 2671                  | 0013734               | 0167                           | 15054                                 |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                |     |                           |      |
| 133                        | STO         | 0125          | 1312               | 3547                | 2675                  | 0013379               | 0201                           | 15039                                 |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                |     |                           |      |
|                            | OBS         | 0134          | 1302               | 35464               | 2677                  |                       |                                | 15037                                 |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                |     |                           |      |
|                            | STO         | 0150          | 1321               | 3553                | 2678                  | 0013184               | 0234                           | 15047                                 |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                |     |                           |      |
| 133                        | OBS         | T0180         | 1339               | 35622               | 2681                  |                       |                                | 15059                                 |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                |     |                           |      |
|                            | STO         | 0200          | 1320               | 3560                | 2683                  | 0012791               | 0299                           | 15056                                 |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                |     |                           |      |
|                            | STO         | 0250          | 1281               | 3555                | 2687                  | 0012531               | 0363                           | 15050                                 |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                |     |                           |      |
| 133                        | OBS         | 0269          | 1268               | 35540               | 2689                  |                       |                                | 15049                                 |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                |     |                           |      |
|                            | STO         | 0300          | 1254               | 3554                | 2692                  | 0012228               | 0425                           | 15049                                 |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                |     |                           |      |
|                            | OBS         | T0359         | 1226               | 35530               | 2697                  |                       |                                | 15049                                 |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                |     |                           |      |
| 133                        | STO         | 0400          | 1149               | 3540                | 2701                  | 0011517               | 0543                           | 15028                                 |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                |     |                           |      |
|                            | OBS         | 0449          | 1036               | 35224               | 2708                  |                       |                                | 14993                                 |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                |     |                           |      |
|                            | STO         | 0500          | 0869               | 3497                | 2716                  | 0010083               | 0651                           | 14937                                 |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                |     |                           |      |
| 133                        | OBS         | 0538          | 0774               | 34842               | 2721                  |                       |                                | 14906                                 |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                |     |                           |      |
|                            | STO         | 0600          | 0737               | 3492                | 2732                  | 0008604               | 0745                           | 14903                                 |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                |     |                           |      |
|                            | STO         | 0700          | 0677               | 3501                | 2748                  | 0007224               | 0824                           | 14897                                 |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                |     |                           |      |
| 133                        | OBS         | 0718          | 0666               | 35015               | 2750                  |                       |                                | 14896                                 |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                |     |                           |      |
|                            | STO         | 0800          | 0613               | 3502                | 2757                  | 0006390               | 0892                           | 14888                                 |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                |     |                           |      |
|                            | OBS         | 0899          | 0556               | 35025               | 2765                  |                       |                                | 14881                                 |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                |     |                           |      |
| 133                        | STO         | 0900          | 0555               | 3502                | 2765                  | 0005725               | 0953                           | 14881                                 |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                |     |                           |      |
|                            | STO         | 1000          | 0506               | 3502                | 2771                  | 0005189               | 1007                           | 14878                                 |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                |     |                           |      |
|                            | STO         | 1100          | 0465               | 3501                | 2774                  | 0004834               | 1057                           | 14878                                 |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                |     |                           |      |
| 133                        | STO         | 1200          | 0432               | 3499                | 2777                  | 0004655               | 1105                           | 14881                                 |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                |     |                           |      |
|                            | STO         | 1300          | 0407               | 3496                | 2777                  | 0004649               | 1151                           | 14887                                 |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                |     |                           |      |
|                            | OBS         | 1355          | 0397               | 34939               | 2776                  |                       |                                | 14891                                 |                   |                     |                                 |                       |                                 |                                 |                                   |                   |                      |                |     |                           |      |



TABLE XII.—Continued

| REFERENCE<br>CITY<br>FOUR  | SHIP<br>NO. | LATITUDE<br>1/10 | LONGITUDE<br>1/10    | MANSION<br>SQUARE      | STATION TIME<br>(GMT)  |             |                               |  | YEAR              | ORIGINATOR'S        |                                 |                         | DEPTH<br>TO<br>BOTTOM           | WAVE<br>OBSERVATIONS            |                                   |     |     | WEA-<br>THER<br>CODE |     | CLOUD<br>CODES |      | NOCC<br>STATION<br>NUMBER |
|----------------------------|-------------|------------------|----------------------|------------------------|------------------------|-------------|-------------------------------|--|-------------------|---------------------|---------------------------------|-------------------------|---------------------------------|---------------------------------|-----------------------------------|-----|-----|----------------------|-----|----------------|------|---------------------------|
|                            |             |                  |                      |                        | 10"                    | 1'          | MO                            | DAY                                    |                   | HR                  | 1/10                            | CRUISE<br>NO.           |                                 | STATION<br>NUMBER               | MAX.<br>DEPTH<br>OF<br>SAMPL.     | DIR | HGT | PER                  | SEA | DIR            | AMT  |                           |
| 311339                     | OG          | 4403 N           | 04055 W              | 149                    | 40                     | 07          | 21                            | 133                                    | 1968              | 021                 | 008                             | 4663                    | 14                              | 28                              | 1                                 | 2   | X2  | 6                    | 8   |                | 0008 |                           |
|                            |             |                  |                      | WATER<br>COLOR<br>CODE | WIND                   |             | AIR TEMP. °C                  |  |                   | VIL<br>CODE         | NO.<br>OBS.<br>DEPTH            | SPECIAL<br>OBSERVATIONS |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
|                            |             | DIR.             | SPEED<br>OF<br>FORCE |                        | BARO-<br>METER<br>(mb) | DRY<br>BULB | WET<br>BULB                   |  |                   |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
|                            |             | 27               | 10                   |                        | 264                    | 178         | 161                           | 7                                      | 14                |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
| MESSAGE<br>TIME<br>HR 1/10 | CARD<br>NO. | CARD<br>TYPE     | DEPTH (m)            | 1 °C                   | 5 °C                   | SIGMA-T     | SPECIFIC VOLUME<br>ANDAL-210° | Σ Δ Δ<br>CYC. AL.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>2</sub> -P<br>pg - ml/l | TOTAL-R<br>pg - ml/l    | NO <sub>3</sub> -N<br>pg - ml/l | NO <sub>2</sub> -N<br>pg - ml/l | SiO <sub>4</sub> -Si<br>pg - ml/l | pH  |     |                      |     |                |      |                           |
| 133                        |             | STD              | 0000                 | 1642                   | 3519                   | 2581        | 0021934                       | 0000                                   | 15120             |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
|                            |             | D85              | 0000                 | 1642                   | 35188                  | 2581        |                               |  | 15120             |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
|                            |             | STD              | 0010                 | 1641                   | 3519                   | 2581        | 0021948                       | 0022                                   | 15122             |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
|                            |             | STD              | 0020                 | 1640                   | 3519                   | 2582        | 0021967                       | 0044                                   | 15123             |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
| 133                        |             | D85              | 0024                 | 1640                   | 35187                  | 2582        |                               |  | 15124             |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
|                            |             | STD              | 0030                 | 1638                   | 3546                   | 2603        | 0019959                       | 0065                                   | 15127             |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
| 133                        |             | D85              | 0049                 | 1625                   | 36036                  | 2650        |                               |  | 15133             |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
|                            |             | STD              | 0050                 | 1623                   | 3604                   | 2651        | 0015467                       | 0100                                   | 15133             |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
| 133                        |             | D85              | 0073                 | 1590                   | 36151                  | 2667        |                               |  | 15128             |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
|                            |             | STD              | 0075                 | 1585                   | 3615                   | 2669        | 0013991                       | 0137                                   | 15127             |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
| 133                        |             | D85              | 0098                 | 1573                   | 36156                  | 2672        |                               |  | 15127             |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
|                            |             | STD              | 0100                 | 1572                   | 3615                   | 2671        | 0013706                       | 0172                                   | 15126             |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
|                            |             | STD              | 0125                 | 1556                   | 3614                   | 2674        | 0013510                       | 0206                                   | 15126             |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
| 133                        |             | D85              | 0146                 | 1547                   | 36132                  | 2676        |                               |  | 15127             |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
|                            |             | STD              | 0150                 | 1547                   | 3613                   | 2676        | 0013452                       | 0239                                   | 15132             |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
| 133                        |             | D85              | T0194                | 1539                   | 36131                  | 2677        |                               |  | 15132             |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
|                            |             | STD              | 0200                 | 1536                   | 3613                   | 2678        | 0013383                       | 0307                                   | 15132             |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
|                            |             | STD              | 0250                 | 1510                   | 3610                   | 2681        | 0013207                       | 0373                                   | 15132             |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
| 133                        |             | D85              | 0290                 | 1490                   | 36028                  | 2680        |                               |  | 15131             |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
|                            |             | STD              | 0300                 | 1473                   | 3558                   | 2680        | 0013433                       | 0440                                   | 15127             |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
| 133                        |             | D85              | T0389                | 1305                   | 35642                  | 2690        |                               |  | 15082             |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
|                            |             | STD              | 0400                 | 1279                   | 3563                   | 2694        | 0012308                       | 0568                                   | 15075             |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
| 133                        |             | D85              | 0440                 | 1109                   | 35486                  | 2716        |                               |  | 15028             |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
|                            |             | STD              | 0500                 | 1072                   | 3542                   | 2717        | 0010212                       | 0681                                   | 15017             |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
| 133                        |             | D85              | T0574                | 0946                   | 35214                  | 2723        |                               |  | 14981             |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
|                            |             | STD              | 0600                 | 0910                   | 3520                   | 2728        | 0009253                       | 0778                                   | 14972             |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
|                            |             | STD              | 0700                 | 0778                   | 3516                   | 2745        | 0007627                       | 0863                                   | 14938             |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
| 133                        |             | D85              | 0762                 | 0704                   | 35126                  | 2753        |                               |  | 14919             |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
|                            |             | STD              | 0800                 | 0661                   | 3509                   | 2756        | 0006556                       | 0934                                   | 14908             |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
|                            |             | STD              | 0900                 | 0558                   | 3502                   | 2764        | 0005765                       | 0995                                   | 14883             |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
| 133                        |             | D85              | T0954                | 0508                   | 34993                  | 2768        |                               |  | 14671             |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
|                            |             | STD              | 1000                 |                        | 3499                   |             |                               |  |                   |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
|                            |             | STD              | 1100                 |                        | 3499                   |             |                               |  |                   |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
|                            |             | STD              | 1200                 |                        | 3498                   |             |                               |  |                   |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
|                            |             | STD              | 1300                 |                        | 3498                   |             |                               |  |                   |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
| 133                        |             | STD              | 1400                 |                        | 3497                   |             |                               |  |                   |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |
|                            |             | D85              | 1440                 |                        | 34970                  |             |                               |  |                   |                     |                                 |                         |                                 |                                 |                                   |     |     |                      |     |                |      |                           |



TABLE XII.—Continued

| REFERENCE   |            | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MO. IN<br>1961 | MARSON<br>SQUARE |    | STATION TIME<br>GMT |      | YEAR | ORIGINATOR'S |      | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>IN<br>FATHOMS | WAVE<br>OBSERVATIONS |                   |      | WEA-<br>TER<br>CODE | CLOUD<br>CODE | NODC<br>STATION<br>NUMBER |
|-------------|------------|--------------|--------------------|---------------------|----------------|------------------|----|---------------------|------|------|--------------|------|-----------------------|--------------------------------|----------------------|-------------------|------|---------------------|---------------|---------------------------|
| CRD<br>CODE | ID.<br>NO. |              |                    |                     |                | 10"              | 1" | MO                  | DAY  |      | HR           | 1/10 |                       |                                | CRUISE<br>NO.        | STATION<br>NUMBER | DIR. |                     |               |                           |
| 311339      | 06         | 4412 N       | 04053 W            | 149                 | 40             | 07               | 22 | 142                 | 1968 | 021  | 009          | 4663 | 14                    | 27                             | 1                    | 2                 | X4   | X9                  |               | 0009                      |

| RESIDUAL<br>TIME<br>HR. 1/10 | CAST<br>NO. | CARD<br>TYPE | DEPTH (m) | T °C  | S ‰  | SIGMA-T | $\frac{\Delta D}{D}$<br>D.W. No.<br>$\times 10^3$ | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>µg - ml/l | TOTAL-P<br>µg - ml/l | NO <sub>3</sub> -N<br>µg - dl/l | NO <sub>3</sub> -N<br>µg - dl/l | SiO <sub>4</sub> -S<br>µg - ml/l | pH | SIC |
|------------------------------|-------------|--------------|-----------|-------|------|---------|---|-------------------|---------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|----------------------------------|----|-----|
| 142                          |             | STD          | 0000      | 1808  | 3614 | 2614    | 0018807   | 0000              | 15181               |                                 |                      |                                 |                                 |                                  |    |     |
|                              | OBS         | 0000         | 1808      | 36140 | 2614 |         |   |                   | 15181               |                                 |                      |                                 |                                 |                                  |    |     |
|                              | STD         | 0010         | 1805      | 3615  | 2616 | 0018694 | 0019  | 15182             |                     |                                 |                      |                                 |                                 |                                  |    |     |
|                              | STD         | 0020         | 1801      | 3616  | 2617 | 0018590 | 0037  | 15182             |                     |                                 |                      |                                 |                                 |                                  |    |     |
| 142                          | OBS         | 0023         | 1800      | 36160 | 2618 |         |   |                   | 15183               |                                 |                      |                                 |                                 |                                  |    |     |
|                              | STD         | 0030         | 1768      | 3623  | 2631 | 0017317 | 0055  | 15175             |                     |                                 |                      |                                 |                                 |                                  |    |     |
| 142                          | OBS         | 0048         | 1701      | 36320 | 2654 |         |   |                   | 15160               |                                 |                      |                                 |                                 |                                  |    |     |
|                              | STD         | 0050         | 1696      | 3631  | 2655 | 0015143 | 0088  | 15158             |                     |                                 |                      |                                 |                                 |                                  |    |     |
| 142                          | OBS         | 0072         | 1645      | 36229 | 2660 |         |   |                   | 15146               |                                 |                      |                                 |                                 |                                  |    |     |
|                              | STD         | 0075         | 1640      | 3622  | 2661 | 0014617 | 0125  | 15144             |                     |                                 |                      |                                 |                                 |                                  |    |     |
| 142                          | OBS         | 0097         | 1609      | 36186 | 2666 |         |   |                   | 15138               |                                 |                      |                                 |                                 |                                  |    |     |
|                              | STD         | 0100         | 1606      | 3618  | 2666 | 0014234 | 0161  | 15138             |                     |                                 |                      |                                 |                                 |                                  |    |     |
|                              | STD         | 0125         | 1580      | 3615  | 2670 | 0013961 | 0196  | 15133             |                     |                                 |                      |                                 |                                 |                                  |    |     |
| 142                          | OBS         | 0143         | 1585      | 36134 | 2672 |         |   |                   | 15132               |                                 |                      |                                 |                                 |                                  |    |     |
|                              | STD         | 0150         | 1562      | 3613  | 2672 | 0013792 | 0231  | 15132             |                     |                                 |                      |                                 |                                 |                                  |    |     |
| 142                          | OBS         | 0190         | 1539      | 36102 | 2675 |         |   |                   | 15131               |                                 |                      |                                 |                                 |                                  |    |     |
|                              | STD         | 0200         | 1533      | 3609  | 2676 | 0013611 | 0300  | 15130             |                     |                                 |                      |                                 |                                 |                                  |    |     |
|                              | STD         | 0250         | 1492      | 3599  | 2677 | 0013614 | 0368  | 15125             |                     |                                 |                      |                                 |                                 |                                  |    |     |
| 142                          | OBS         | 0283         | 1455      | 35923 | 2680 |         |   |                   | 15117               |                                 |                      |                                 |                                 |                                  |    |     |
|                              | STD         | 0300         | 1433      | 3588  | 2681 | 0013321 | 0435  | 15113             |                     |                                 |                      |                                 |                                 |                                  |    |     |
| 142                          | OBS         | T0373        | 1318      | 35697 | 2691 |         |   |                   | 15085               |                                 |                      |                                 |                                 |                                  |    |     |
|                              | STD         | 0400         | 1259      | 3561  | 2697 | 0012064 | 0562  | 15068             |                     |                                 |                      |                                 |                                 |                                  |    |     |
| 142                          | OBS         | 0464         | 1126      | 35424 | 2708 |         |   |                   | 15030               |                                 |                      |                                 |                                 |                                  |    |     |
|                              | STD         | 0500         | 1055      | 3534  | 2714 | 0010495 | 0675  | 15010             |                     |                                 |                      |                                 |                                 |                                  |    |     |
| 142                          | OBS         | T0545        | 0972      | 35252 | 2722 |         |   |                   | 14986               |                                 |                      |                                 |                                 |                                  |    |     |
|                              | STD         | 0600         | 0874      | 3520  | 2734 | 0008665 | 0770  | 14959             |                     |                                 |                      |                                 |                                 |                                  |    |     |
|                              | STD         | 0700         | 0731      | 3514  | 2751 | 0007060 | 0849  | 14920             |                     |                                 |                      |                                 |                                 |                                  |    |     |
| 142                          | OBS         | 0730         | 0696      | 35124 | 2754 |         |   |                   | 14911               |                                 |                      |                                 |                                 |                                  |    |     |
|                              | STD         | 0800         | 0643      | 3511  | 2761 | 0006136 | 0915  | 14901             |                     |                                 |                      |                                 |                                 |                                  |    |     |
|                              | STD         | 0900         | 0578      | 3509  | 2768 | 0005495 | 0973  | 14892             |                     |                                 |                      |                                 |                                 |                                  |    |     |
| 142                          | OBS         | T0913        | 0570      | 35092 | 2768 |         |   |                   | 14891               |                                 |                      |                                 |                                 |                                  |    |     |
|                              | STD         | 1000         | 0523      | 3508  | 2773 | 0004974 | 1026  | 14886             |                     |                                 |                      |                                 |                                 |                                  |    |     |
|                              | STD         | 1100         | 0480      | 3506  | 2777 | 0004663 | 1074  | 14885             |                     |                                 |                      |                                 |                                 |                                  |    |     |
|                              | STD         | 1200         | 0447      | 3503  | 2778 | 0004556 | 1120  | 14887             |                     |                                 |                      |                                 |                                 |                                  |    |     |
|                              | STD         | 1300         | 0426      | 3501  | 2779 | 0004528 | 1165  | 14895             |                     |                                 |                      |                                 |                                 |                                  |    |     |
| 142                          | OBS         | T1386        | 0417      | 34992 | 2778 |         |   |                   | 14906               |                                 |                      |                                 |                                 |                                  |    |     |

| REFERENCE    |            | SHIP<br>CODE | LATITUDE<br>°<br>1°10' | LONGITUDE<br>°<br>1°10' | DEPTH<br>METER | MARSON<br>SQUARE |    | STATION TIME<br>(GMT) |     | YEAR | ORIGINATOR'S |     | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SWATH | WAVE OBSERVATIONS |                   |     |     | WEATHER<br>CODE | CLOUD<br>CODE | NODC<br>STATION<br>NUMBER |      |
|--------------|------------|--------------|------------------------|-------------------------|----------------|------------------|----|-----------------------|-----|------|--------------|-----|-----------------------|------------------------------|-------------------|-------------------|-----|-----|-----------------|---------------|---------------------------|------|
| CTRY<br>CODE | NO.<br>NO. |              |                        |                         |                | 1°               | 1° | MO                    | DAY |      | HR           | MIN |                       |                              | CAUSE<br>NO.      | STATION<br>NUMBER | DIR | HGT |                 |               |                           | PER  |
| 311339       | 06         | 4417 N       | 04112 W                | 0                       | 149            | 41               | 07 | 23                    | 129 | 1968 | 021          | 010 | 4663                  | 13                           | 20                | 1                 |     |     | X6              | 6 8           |                           | 0010 |

| MESSING<br>TIME | CASIT<br>NO. | CARD<br>TYPE | DEPTH [m] | T °C | S %   | SIGMA-T | SPECIFIC VOLUME<br>ANOMALY- $\Delta \rho$ | $\Sigma \Delta \rho$<br>DTN. M. | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>2</sub> -P<br>pg - wt/l | TOTAL-P<br>pg - wt/l | NO <sub>3</sub> -N<br>pg - wt/l | SiO <sub>2</sub> -S<br>pg - wt/l | pH | POT |
|-----------------|--------------|--------------|-----------|------|-------|---------|---|---------------------------------|-------------------|---------------------|---------------------------------|----------------------|---------------------------------|----------------------------------|----|-----|
| HR 1/10         |              |              |           |      |       |         |   |                                 |                   |                     |                                 |                      |                                 |                                  |    |     |
| 129             |              | STD          | 0000      | 1782 | 3595  | 2606    | 0019569                                   | 0000                            | 15171             |                     |                                 |                      |                                 |                                  |    |     |
|                 |              | DBS          | 0000      | 1782 | 35951 | 2606    |   |                                 | 15171             |                     |                                 |                      |                                 |                                  |    |     |
|                 |              | STD          | 0010      | 1745 | 3597  | 2617    | 0018604                                   | 0019                            | 15162             |                     |                                 |                      |                                 |                                  |    |     |
| 129             |              | DBS          | 0019      | 1722 | 36020 | 2620    |   |                                 | 15157             |                     |                                 |                      |                                 |                                  |    |     |
|                 |              | STD          | 0020      | 1721 | 3604  | 2628    | 0017579                                   | 0037                            | 15158             |                     |                                 |                      |                                 |                                  |    |     |
|                 |              | STD          | 0030      | 1712 | 3619  | 2642    | 0016313                                   | 0054                            | 15158             |                     |                                 |                      |                                 |                                  |    |     |
| 129             |              | DBS          | 0041      | 1702 | 36278 | 2651    |   |                                 | 15158             |                     |                                 |                      |                                 |                                  |    |     |
|                 |              | STD          | 0050      | 1656 | 3624  | 2659    | 0014747                                   | 0085                            | 15145             |                     |                                 |                      |                                 |                                  |    |     |
| 129             |              | DBS          | 0063      | 1610 | 36191 | 2666    |   |                                 | 15133             |                     |                                 |                      |                                 |                                  |    |     |
|                 |              | STD          | 0075      | 1595 | 3616  | 2667    | 0014057                                   | 0121                            | 15130             |                     |                                 |                      |                                 |                                  |    |     |
| 129             |              | DBS          | 0084      | 1586 | 36150 | 2668    |   |                                 | 15129             |                     |                                 |                      |                                 |                                  |    |     |
|                 |              | STD          | 0100      | 1576 | 3616  | 2671    | 0013750                                   | 0156                            | 15128             |                     |                                 |                      |                                 |                                  |    |     |
|                 |              | STD          | 0125      | 1563 | 3617  | 2675    | 0013480                                   | 0190                            | 15126             |                     |                                 |                      |                                 |                                  |    |     |
| 129             |              | DBS          | 0128      | 1562 | 36166 | 2675    |   |                                 | 15129             |                     |                                 |                      |                                 |                                  |    |     |
|                 |              | STD          | 0150      | 1559 | 3616  | 2675    | 0013509                                   | 0224                            | 15131             |                     |                                 |                      |                                 |                                  |    |     |
| 129             |              | DBS          | T0149     | 1552 | 36154 | 2676    |   |                                 | 15132             |                     |                                 |                      |                                 |                                  |    |     |
|                 |              | STD          | 0200      | 1537 | 3612  | 2677    | 0013479                                   | 0291                            | 15132             |                     |                                 |                      |                                 |                                  |    |     |
|                 |              | STD          | 0250      | 1487 | 3602  | 2680    | 0013289                                   | 0358                            | 15123             |                     |                                 |                      |                                 |                                  |    |     |
| 129             |              | DBS          | 0256      | 1479 | 35999 | 2681    |   |                                 | 15121             |                     |                                 |                      |                                 |                                  |    |     |
|                 |              | STD          | 0300      | 1366 | 3582  | 2687    | 0012788                                   | 0423                            | 15077             |                     |                                 |                      |                                 |                                  |    |     |
| 129             |              | DBS          | 0341      | 1311 | 35687 | 2692    |   |                                 | 15077             |                     |                                 |                      |                                 |                                  |    |     |
|                 |              | STD          | 0400      | 1232 | 3560  | 2701    | 0011616                                   | 0545                            | 15059             |                     |                                 |                      |                                 |                                  |    |     |
| 129             |              | DBS          | 0429      | 1186 | 35545 | 2706    |   |                                 | 15047             |                     |                                 |                      |                                 |                                  |    |     |
|                 |              | STD          | 0500      | 1052 | 3537  | 2717    | 0010222                                   | 0655                            | 15009             |                     |                                 |                      |                                 |                                  |    |     |
|                 |              | DBS          | 0517      | 1018 | 35328 | 2720    |   |                                 | 14995             |                     |                                 |                      |                                 |                                  |    |     |
|                 |              | STD          | 0600      | 0793 | 3504  | 2738    | 0008147                                   | 0747                            | 14926             |                     |                                 |                      |                                 |                                  |    |     |
| 129             |              | DBS          | 0682      | 0634 | 34558 | 2749    |   |                                 | 14878             |                     |                                 |                      |                                 |                                  |    |     |
|                 |              | STD          | 0700      | 0627 | 3457  | 2751    | 0006812                                   | 0822                            | 14877             |                     |                                 |                      |                                 |                                  |    |     |
|                 |              | STD          | 0800      | 0566 | 3500  | 2762    | 0005892                                   | 0885                            | 14869             |                     |                                 |                      |                                 |                                  |    |     |
| 129             |              | DBS          | T0853     | 0537 | 35012 | 2766    |   |                                 | 14866             |                     |                                 |                      |                                 |                                  |    |     |
|                 |              | STD          | 0900      | 0514 | 3501  | 2769    | 0005273                                   | 0941                            | 14865             |                     |                                 |                      |                                 |                                  |    |     |
|                 |              | STD          | 1000      | 0472 | 3500  | 2773    | 0004920                                   | 0992                            | 14864             |                     |                                 |                      |                                 |                                  |    |     |
|                 |              | STD          | 1100      | 0441 | 3499  | 2775    | 0004700                                   | 1040                            | 14866             |                     |                                 |                      |                                 |                                  |    |     |
|                 |              | STD          | 1200      | 0419 | 3498  | 2777    | 0004598                                   | 1087                            | 14875             |                     |                                 |                      |                                 |                                  |    |     |
|                 |              | STD          | 1300      | 0407 | 3496  | 2777    | 0004620                                   | 1133                            | 14887             |                     |                                 |                      |                                 |                                  |    |     |
| 129             |              | DBS          | T1328     | 0405 | 34961 | 2777    |   |                                 | 14891             |                     |                                 |                      |                                 |                                  |    |     |



TABLE XII.—Continued

| REFERENCE                   |             | SHIP<br>CODE | LATITUDE<br>°<br>1/10 | LONGITUDE<br>°<br>1/10 | PORT<br>OR<br>STATION | WARDEN<br>SQUARE |                                 | STATION TIME<br>(GMT) |                                       | YEAR              | ORIGINATOR'S        |                                 | DEPTH<br>TO<br>BOTTOM | WAVE<br>OBSERVATIONS            | WEA-<br>THER<br>CODE            | CLOUD<br>CODES                    |      | NOOC<br>STATION<br>NUMBER |     |   |      |  |  |
|-----------------------------|-------------|--------------|-----------------------|------------------------|-----------------------|------------------|---------------------------------|-----------------------|---------------------------------------|-------------------|---------------------|---------------------------------|-----------------------|---------------------------------|---------------------------------|-----------------------------------|------|---------------------------|-----|---|------|--|--|
| CTER<br>CODE                | ID.<br>NO.  |              |                       |                        |                       | 10°              | 1°                              | MO                    | DAY                                   |                   | HR.1/10             | CRUISE<br>NO.                   |                       |                                 |                                 | STATION<br>NUMBER                 | TYPE |                           | AMT |   |      |  |  |
|                             |             |              |                       |                        |                       |                  |                                 |                       |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
| 311339                      | 06          | 4402 N       | 04047 W               | 0                      | 149                   | 40               | 07                              | 24                    | 121                                   | 1905              | 021                 | 011                             | 4663                  | 14                              | 35                              | 1                                 | 2    | X1                        | 6   | 5 | 0011 |  |  |
|                             |             |              |                       |                        |                       |                  |                                 |                       |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
|                             |             |              |                       |                        |                       | WATER            |                                 | WIND                  |                                       | BARO-<br>METER    |                     | AIR TEMP. °C                    |                       | VIS<br>CODE                     | NO.<br>OBS.<br>DEPTHS           | SPECIAL<br>OBSERVATIONS           |      |                           |     |   |      |  |  |
|                             |             |              |                       |                        |                       | COLOR<br>CODE    | TRANS.<br>IN.                   | DIR.                  | SPEED<br>OR<br>FORCE                  | METER<br>UNITS    | DBT<br>BULB         | WET<br>BULB                     |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
|                             |             |              |                       |                        |                       |                  |                                 |                       | 36                                    | 505               | 244                 | 167                             | 139                   | 7                               | 14                              |                                   |      |                           |     |   |      |  |  |
| MESSAGE<br>TIME<br>HR. 1/10 | CARD<br>NO. | CARD<br>TYPE | DEPTH<br>m            | T °C                   | S %                   | SIGMA-t          | SPECIFIC VOLUME<br>AND SALTY-AT |                       | Σ Δ D<br>DYN. M.<br>X 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>2</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l  | NO <sub>2</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | PH   | S<br>C                    |     |   |      |  |  |
| 121                         | STO         | 0300         | 1841                  | 3615                   | 2606                  | 0019543          | 0000                            | 15170                 |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
|                             | OBS         | 0000         | 1841                  | 36146                  | 2606                  |                  |                                 | 15170                 |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
|                             | STO         | 0010         | 1839                  | 3615                   | 2607                  | 0019530          | 0020                            | 15191                 |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
|                             | STO         | 0020         | 1836                  | 3614                   | 2608                  | 0019513          | 0039                            | 15192                 |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
| 121                         | OBS         | 0024         | 1835                  | 36144                  | 2608                  |                  |                                 | 15193                 |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
|                             | STO         | 0030         | 1802                  | 3622                   | 2622                  | 0018188          | 0058                            | 15185                 |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
| 121                         | OBS         | 0048         | 1722                  | 36345                  | 2651                  |                  |                                 | 15166                 |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
|                             | STO         | 0050         | 1716                  | 3634                   | 2652                  | 0015382          | 0091                            | 15165                 |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
| 121                         | OBS         | 0072         | 1660                  | 36250                  | 2659                  |                  |                                 | 15150                 |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
|                             | STO         | 0075         | 1655                  | 3624                   | 2659                  | 0014807          | 0129                            | 15149                 |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
| 121                         | OBS         | 0097         | 1620                  | 36201                  | 2664                  |                  |                                 | 15142                 |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
|                             | STO         | 0100         | 1613                  | 3619                   | 2665                  | 0014316          | 0166                            | 15140                 |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
| 121                         | STO         | 0125         | 1569                  | 3613                   | 2670                  | 0013866          | 0201                            | 15130                 |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
|                             | OBS         | 0144         | 1548                  | 36106                  | 2673                  |                  |                                 | 15126                 |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
| 121                         | STO         | 0150         | 1548                  | 3611                   | 2674                  | 0013630          | 0235                            | 15127                 |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
|                             | OBS         | T0191        | 1546                  | 36133                  | 2676                  |                  |                                 | 15134                 |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
| 121                         | STO         | 0200         | 1539                  | 3612                   | 2677                  | 0013523          | 0303                            | 15133                 |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
|                             | STO         | 0250         | 1493                  | 3603                   | 2680                  | 0013344          | 0370                            | 15125                 |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
| 121                         | OBS         | 0287         | 1455                  | 35963                  | 2683                  |                  |                                 | 15118                 |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
|                             | STO         | 0300         | 1441                  | 3594                   | 2684                  | 0013051          | 0436                            | 15116                 |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
| 121                         | OBS         | T0382        | 1338                  | 35754                  | 2692                  |                  |                                 | 15093                 |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
|                             | STO         | 0400         | 1316                  | 3572                   | 2694                  | 0012384          | 0563                            | 15089                 |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
| 121                         | OBS         | 0478         | 1185                  | 35525                  | 2704                  |                  |                                 | 15055                 |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
|                             | STO         | 0500         | 1125                  | 3544                   | 2709                  | 0011025          | 0680                            | 15036                 |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
| 121                         | OBS         | T0573        | 0953                  | 35230                  | 2723                  |                  |                                 | 14984                 |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
|                             | STO         | 0600         | 0912                  | 3521                   | 2728                  | 0009213          | 0782                            | 14973                 |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
| 121                         | STO         | 0700         | 0773                  | 3515                   | 2745                  | 0007623          | 0866                            | 14936                 |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
|                             | OBS         | 0764         | 0696                  | 35112                  | 2753                  |                  |                                 | 14916                 |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
| 121                         | STO         | 0800         | 0657                  | 3509                   | 2757                  | 0006498          | 0936                            | 14907                 |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
|                             | STO         | 0900         | 0563                  | 3503                   | 2764                  | 0005760          | 0998                            | 14885                 |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
| 121                         | OBS         | T0958        | 0518                  | 35000                  | 2768                  |                  |                                 | 14876                 |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
|                             | STO         | 1000         | 0508                  | 3500                   | 2768                  | 0005383          | 1053                            | 14879                 |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
| 121                         | STO         | 1100         | 0484                  | 3499                   | 2771                  | 0005230          | 1107                            | 14885                 |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
|                             | STO         | 1200         | 0460                  | 3498                   | 2773                  | 0005070          | 1158                            | 14892                 |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
| 121                         | STO         | 1300         | 0436                  | 3498                   | 2775                  | 0004899          | 1208                            | 14899                 |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
|                             | STO         | 1400         | 0412                  | 3497                   | 2777                  | 0004731          | 1256                            | 14906                 |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |
| 121                         | OBS         | T1424        | 0406                  | 34968                  | 2778                  |                  |                                 | 14907                 |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |      |                           |     |   |      |  |  |



TABLE XII.—Continued

[illegible]



TABLE XII.—Continued

| REFERENCE                  |             | SHIP<br>CODE  | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MARSSEN<br>SQUARE    | STATION TIME<br>(GMT) | YEAR                                   | ORIGINATOR'S                                  |                   | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>S'WPL'S       | WAVE<br>OBSERVATIONS      |                                      |                                      | WEA-<br>THER<br>CODE                   | CLOUD<br>CODES |      | NODC<br>STATION<br>NUMBER |     |
|----------------------------|-------------|---------------|--------------------|---------------------|----------------------|-----------------------|--|---|-------------------|-----------------------|--------------------------------------|---------------------------|--------------------------------------|--------------------------------------|--|----------------|------|---------------------------|-----|
| CITY<br>CODE               | ID.<br>NO.  |               |                    |                     |                      |                       |  | CRUISE<br>NO.                                 | STATION<br>NUMBER |                       |                                      | DIR.                      | HGT                                  | PER                                  |  | SEA            | TYPE |                           | AMT |
| 311339                     |             | DG            | 4427 N             | 04050 W             | 145                  | 07 26 12              | 1968                                   | D21   | 013               | 4663                  | 13                                   | 17                        | 0 2                                  | X1                                   | 6 7                                    |                | 0013 |                           |     |
|                            |             |               |                    |                     |                      |                       |  |   |                   |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |
|                            |             | WATER         |                    | WIND                |                      | BARO-<br>METER        |  | AIR TEMP. °C                                  |                   | VIS<br>CODE           |                                      | NO. OBS.<br>DEPTH         |                                      | SPECIAL<br>OBSERVATIONS              |  |                |      |                           |     |
|                            |             | COLOR<br>CODE | TRANS.<br>IN       | DIR.                | SPEED<br>OR<br>FORCE | INCH                  | MM                                     | DRY<br>BULB                                   | WET<br>BULB       |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |
|                            |             | 15            | S14                | 203                 | 183                  | 161                   | 7                                      | 14  |                   |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |
| MESSING<br>TIME<br>HR 1/10 | CAST<br>NO. | CARD<br>TYPE  | DEPTH (m)          | T °C                | S ‰                  | SIGMA-T               | SPECIFIC VOLUME<br>ANOMALY- $\sigma_t$ | $\Sigma \Delta D$<br>DYN. M.<br>$\times 10^3$ | SOUND<br>VELOCITY | O <sub>2</sub> ml/l   | PO <sub>4</sub> -P<br>$\mu g - ml/l$ | TOTAL-P<br>$\mu g - ml/l$ | NO <sub>3</sub> -N<br>$\mu g - ml/l$ | NO <sub>2</sub> -N<br>$\mu g - ml/l$ | SiO <sub>4</sub> -Si<br>$\mu g - ml/l$ | pH             | CTD  |                           |     |
|                            |             | STD           | 0000               | 1593                | 3559                 | 2624                  | 0017921                                | 0000  | 15110             |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |
| 126                        |             | OBS           | 0000               | 1593                | 35591                | 2624                  |  |   | 15110             |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |
|                            |             | STD           | 0010               | 1566                | 3566                 | 2635                  | 0016864                                | 0017  | 15104             |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |
|                            |             | STD           | 0020               | 1540                | 3572                 | 2645                  | 0015936                                | 0034  | 15099             |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |
| 126                        |             | OBS           | 0020               | 1540                | 35715                | 2645                  |  |   | 15099             |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |
|                            |             | STD           | 0030               | 1510                | 3576                 | 2655                  | 0015001                                | 0049  | 15091             |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |
|                            |             | STD           | 0043               | 1488                | 35800                | 2663                  |  |   | 15087             |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |
| 126                        |             | OBS           | 0043               | 1488                | 35800                | 2663                  | 0014297                                | 0079  | 15089             |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |
|                            |             | STD           | 0050               | 1491                | 3581                 | 2663                  |  |   | 15092             |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |
| 126                        |             | OBS           | 0065               | 1492                | 35837                | 2665                  |  |   | 15093             |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |
|                            |             | STD           | 0075               | 1488                | 3584                 | 2666                  | 0014091                                | 0114  | 15093             |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |
| 126                        |             | OBS           | 0086               | 1484                | 35853                | 2668                  |  |   | 15095             |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |
|                            |             | STD           | 0100               | 1482                | 3587                 | 2670                  | 0013783                                | 0149  | 15098             |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |
|                            |             | STD           | 0125               | 1477                | 3591                 | 2674                  | 0013485                                | 0183  | 15099             |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |
| 126                        |             | OBS           | 0130               | 1476                | 35920                | 2675                  |  |   | 15097             |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |
|                            |             | STD           | 0150               | 1461                | 3593                 | 2679                  | 0013125                                | 0216  | 15095             |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |
| 126                        |             | OBS           | T0171              | 1441                | 35932                | 2684                  |  |   | 15079             |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |
|                            |             | STD           | 0200               | 1383                | 3582                 | 2687                  | 0012441                                | 0280  | 15079             |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |
|                            |             | STD           | 0250               | 1310                | 3568                 | 2692                  | 0012147                                | 0342  | 15062             |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |
| 126                        |             | OBS           | 0259               | 1300                | 35664                | 2692                  |  |   | 15059             |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |
|                            |             | STD           | 0300               | 1282                | 35643                | 2699                  | 0011925                                | 0402  | 15060             |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |
| 126                        |             | OBS           | T0350              | 1261                | 35648                | 2699                  |  |   | 15061             |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |
|                            |             | STD           | 0400               | 1166                | 35389                | 2704                  | 0011247                                | 0518  | 15035             |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |
| 126                        |             | OBS           | 0430               | 1103                | 35389                | 2709                  |  |   | 15016             |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |
|                            |             | STD           | 0500               | 0932                | 35125                | 2721                  | 0009708                                | 0622  | 14963             |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |
| 126                        |             | OBS           | T0514              | 0904                | 35125                | 2723                  |  |   | 14955             |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |
|                            |             | STD           | 0600               | 0810                | 35123                | 2738                  | 0008209                                | 0712  | 14933             |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |
| 126                        |             | OBS           | 0683               | 0718                | 35123                | 2751                  |  |   | 14912             |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |
|                            |             | STD           | 0700               | 0696                | 3511                 | 2753                  | 0006764                                | 0787  | 14906             |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |
|                            |             | STD           | 0800               | 0573                | 3504                 | 2763                  | 0005774                                | 0850  | 14875             |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |
| 126                        |             | OBS           | T0858              | 0524                | 35001                | 2767                  |  |   | 14862             |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |
|                            |             | STD           | 0900               | 0511                | 3499                 | 2768                  | 0005334                                | 0905  | 14863             |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |
|                            |             | STD           | 1000               | 0481                | 3498                 | 2770                  | 0005165                                | 0958  | 14867             |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |
|                            |             | STD           | 1100               | 0451                | 3496                 | 2772                  | 0004999                                | 1008  | 14872             |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |
|                            |             | STD           | 1200               | 0421                | 3495                 | 2774                  | 0004830                                | 1058  | 14876             |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |
| 126                        |             | OBS           | 1283               | 0396                | 34934                | 2776                  |  |   | 14879             |                       |                                      |                           |                                      |                                      |  |                |      |                           |     |

| REFERENCE<br>CITY<br>CODE  | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MARSSEN<br>SQUARE | STATION TIME<br>(GMT) | YEAR           | ORIGINATOR'S                           |   | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>S'WPL'S | WAVE<br>OBSERVATIONS                 |                           |                                      | WEA-<br>THER<br>CODE                 | CLOUD<br>CODES                         |     | NODC<br>STATION<br>NUMBER |
|----------------------------|--------------|--------------------|---------------------|-------------------|-----------------------|----------------|--|---|-----------------------|--------------------------------|--------------------------------------|---------------------------|--------------------------------------|--------------------------------------|--|-----|---------------------------|
|                            |              |                    |                     |                   |                       |                | CRUISE<br>NO.                          | STATION<br>NUMBER                             |                       |                                | DIR.                                 | HGT<br>PER                | SEA                                  |                                      | TIME                                   | AMT |                           |
| 311339                     | DG           | 4355 N             | 04103 W             | 145               | 31 07 27              | 1968           | D21                                    | 014   | 4663                  | 15                             | 25                                   | 2                         | 3                                    | X6                                   | 6                                      | 8   | 0014                      |
|                            |              |                    |                     |                   |                       |                |  |   |                       |                                |                                      |                           |                                      |                                      |  |     |                           |
|                            |              | WATER              |                     | WIND              |                       | BARO-<br>METER |  | AIR TEMP. °C                                  |                       | VIS<br>CODE                    |                                      | NO. OBS.<br>DEPTH         |                                      | SPECIAL<br>OBSERVATIONS              |  |     |                           |
|                            |              | COLOR<br>CODE      | TRANS.<br>IN        | DIR.              | SPEED<br>OR<br>FORCE  | INCH           | MM                                     | DRY<br>BULB                                   | WET<br>BULB           |                                |                                      |                           |                                      |                                      |  |     |                           |
|                            |              | 29                 | S20                 | 163               | 167                   | 156            | 6                                      | 14  |                       |                                |                                      |                           |                                      |                                      |  |     |                           |
| MESSING<br>TIME<br>HR 1/10 | CAST<br>NO.  | CARD<br>TYPE       | DEPTH (m)           | T °C              | S ‰                   | SIGMA-T        | SPECIFIC VOLUME<br>ANOMALY- $\sigma_t$ | $\Sigma \Delta D$<br>DYN. M.<br>$\times 10^3$ | SOUND<br>VELOCITY     | O <sub>2</sub> ml/l            | PO <sub>4</sub> -P<br>$\mu g - ml/l$ | TOTAL-P<br>$\mu g - ml/l$ | NO <sub>3</sub> -N<br>$\mu g - ml/l$ | NO <sub>2</sub> -N<br>$\mu g - ml/l$ | SiO <sub>4</sub> -Si<br>$\mu g - ml/l$ | pH  | CTD                       |
| 118                        |              | STD                | 0000                | 1414              | 3499                  | 2617           | 0018548                                | 0000  | 15046                 |                                |                                      |                           |                                      |                                      |  |     |                           |
|                            |              | OBS                | 0000                | 1414              | 34992                 | 2617           |  |   | 15046                 |                                |                                      |                           |                                      |                                      |  |     |                           |
|                            |              | STD                | 0010                | 1470              | 3540                  | 2636           | 0016735                                | 0018  | 15071                 |                                |                                      |                           |                                      |                                      |  |     |                           |
|                            |              | STD                | 0020                | 1507              | 3570                  | 2651           | 0015345                                | 0034  | 15088                 |                                |                                      |                           |                                      |                                      |  |     |                           |
| 118                        |              | OBS                | 0026                | 1521              | 35813                 | 2657           |  |   | 15095                 |                                |                                      |                           |                                      |                                      |  |     |                           |
|                            |              | STD                | 0030                | 1518              | 3582                  | 2658           | 0014770                                | 0049  | 15095                 |                                |                                      |                           |                                      |                                      |  |     |                           |
|                            |              | STD                | 0050                | 1506              | 3583                  | 2662           | 0014451                                | 0078  | 15094                 |                                |                                      |                           |                                      |                                      |  |     |                           |
| 118                        |              | OBS                | 0051                | 1505              | 35832                 | 2662           |  |   | 15094                 |                                |                                      |                           |                                      |                                      |  |     |                           |
|                            |              | STD                | 0075                | 1526              | 3597                  | 2668           | 0013947                                | 0113  | 15106                 |                                |                                      |                           |                                      |                                      |  |     |                           |
|                            |              | OBS                | 0077                | 1527              | 35984                 | 2669           |  |   | 15107                 |                                |                                      |                           |                                      |                                      |  |     |                           |
| 118                        |              | STD                | 0100                | 1537              | 3606                  | 2672           | 0013596                                | 0148  | 15115                 |                                |                                      |                           |                                      |                                      |  |     |                           |
|                            |              | OBS                | 0101                | 1537              | 36064                 | 2673           |  |   | 15115                 |                                |                                      |                           |                                      |                                      |  |     |                           |
|                            |              | STD                | 0125                | 1529              | 3605                  | 2674           | 0013562                                | 0182  | 15116                 |                                |                                      |                           |                                      |                                      |  |     |                           |
|                            |              | STD                | 0150                | 1516              | 3604                  | 2676           | 0013448                                | 0216  | 15116                 |                                |                                      |                           |                                      |                                      |  |     |                           |
| 118                        |              | OBS                | 0152                | 1515              | 36040                 | 2676           |  |   | 15116                 |                                |                                      |                           |                                      |                                      |  |     |                           |
|                            |              | STD                | 0200                | 1474              | 3596                  | 2679           | 0013278                                | 0282  | 15110                 |                                |                                      |                           |                                      |                                      |  |     |                           |
| 118                        |              | OBS                | 0201                | 1473              | 35961                 | 2679           |  |   | 15110                 |                                |                                      |                           |                                      |                                      |  |     |                           |
|                            |              | STD                | 0250                | 1364              | 3572                  | 2684           | 0012930                                | 0348  | 15080                 |                                |                                      |                           |                                      |                                      |  |     |                           |
| 118                        |              | OBS                | 0299                | 1279              | 35563                 | 2689           |  |   | 15058                 |                                |                                      |                           |                                      |                                      |  |     |                           |
|                            |              | STD                | 0300                | 1278              | 3556                  | 2689           | 0012533                                | 0412  | 15057                 |                                |                                      |                           |                                      |                                      |  |     |                           |
| 118                        |              | OBS                | T0358               | 1179              | 35504                 | 2704           |  |   | 15039                 |                                |                                      |                           |                                      |                                      |  |     |                           |
|                            |              | STD                | 0400                | 1175              | 3550                  | 2704           | 0011268                                | 0531  | 15038                 |                                |                                      |                           |                                      |                                      |  |     |                           |
| 118                        |              | OBS                | 0454                | 1004              | 35272                 | 2718           |  |   | 14990                 |                                |                                      |                           |                                      |                                      |  |     |                           |
|                            |              | STD                | 0500                | 0994              | 3526                  | 2718           | 0010018                                | 0637  | 14987                 |                                |                                      |                           |                                      |                                      |  |     |                           |
| 118                        |              | OBS                | 0591                | 0840              | 35115                 | 2732           |  |   | 14943                 |                                |                                      |                           |                                      |                                      |  |     |                           |
|                            |              | STD                | 0600                | 0810              | 3510                  | 2734           | 0008526                                | 0730  | 14930                 |                                |                                      |                           |                                      |                                      |  |     |                           |
|                            |              | STD                | 0700                | 0629              | 3498                  | 2752           | 0006706                                | 0806  | 14977                 |                                |                                      |                           |                                      |                                      |  |     |                           |
| 118                        |              | OBS                | 0783                | 0527              | 34926                 | 2761           |  |   | 14849                 |                                |                                      |                           |                                      |                                      |  |     |                           |
|                            |              | STD                | 0800                | 0523              | 3493                  | 2761           | 0005339                                | 0869  | 14851                 |                                |                                      |                           |                                      |                                      |  |     |                           |
|                            |              | STD                | 0900                | 0498              | 3498                  | 2768           | 0005263                                | 0925  | 14858                 |                                |                                      |                           |                                      |                                      |  |     |                           |
| 118                        |              | OBS                | T0974               | 0461              | 34997                 | 2772           |  |   | 14863                 |                                |                                      |                           |                                      |                                      |  |     |                           |
|                            |              | STD                | 1000                | 0475              | 3500                  | 2772           | 0004960                                | 0976  | 14865                 |                                |                                      |                           |                                      |                                      |  |     |                           |
|                            |              | STD                | 1100                | 0454              | 3499                  | 2774           | 0004860                                | 1025  | 14873                 |                                |                                      |                           |                                      |                                      |  |     |                           |
|                            |              | STD                | 1200                | 0434              | 3498                  | 2775           | 0004702                                | 1073  | 14881                 |                                |                                      |                           |                                      |                                      |  |     |                           |
|                            |              | STD                | 1300                | 0417              | 3497                  | 2777           | 0004637                                | 1120  | 14891                 |                                |                                      |                           |                                      |                                      |  |     |                           |
|                            |              | STD                | 1400                | 0400              | 3496                  | 2778           | 0004628                                | 1167  | 14901                 |                                |                                      |                           |                                      |                                      |  |     |                           |
| 118                        |              | OBS                | T1471               | 0390              | 34957                 | 2778           |  |   | 14908                 |                                |                                      |                           |                                      |                                      |  |     |                           |



TABLE XII.—Continued

| REFERENCE                  |               | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MARDEN<br>SQUARE | STATION TIME<br>(GMT) |   |  | YEAR              | ORIGINATOR'S        |                                 | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPL'S  | WAVE<br>OBSERVATIONS            |                                   |     |        | WEA-<br>THER<br>CODE | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |     |      |
|----------------------------|---------------|--------------|--------------------|---------------------|------------------|-----------------------|---|--|-------------------|---------------------|---------------------------------|-----------------------|---------------------------------|---------------------------------|-----------------------------------|-----|--------|----------------------|----------------|---------------------------|-----|------|
| CRUISE<br>CODE             | IO.<br>NO.    |              |                    |                     |                  | 10'                   | 1'  | MO   |                   | DAY                 | HR.1/10                         |                       |                                 | CRUISE<br>NO.                   | STATION<br>NUMBER                 | DIR | HGT    |                      |                |                           | PER | SEA  |
| 311339                     | DG            |              | 4402 N             | 04053 W             | 149              | 40                    | 07  | 28   | 132               | 1968                | 021                             | 015                   | 4663                            | 15                              | 27                                | 1   | 2      |                      | X1             | 2 4                       |     | 0015 |
|                            |               |              |                    |                     |                  |                       |   |  |                   |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |
|                            |               |              |                    | WATER               |                  | WIND                  |   | BARO-<br>METER                             |                   | AIR TEMP. °C        |                                 | VIS<br>CODE           | NO.<br>OBS.<br>DEPTH            | SPECIAL<br>OBSERVATIONS         |                                   |     |        |                      |                |                           |     |      |
|                            |               |              |                    | COLOR<br>CODE       | TRANS<br>(m)     | DIR                   | SPEED<br>OR<br>FORCE                          | INCH                                       | MM                | DRY<br>BULB         | WET<br>BULB                     |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |
|                            |               |              |                    |                     |                  |                       | 13  | 504  | 308               | 189                 | 144                             | 7                     | 14                              |                                 |                                   |     |        |                      |                |                           |     |      |
| MESSAGE<br>TIME<br>HR 1/10 | CAS-<br>T NO. | CARD<br>TYPE | DEPTH (m)          | T °C                | S ‰              | SIGMA-T               | SPECIFIC VOLUME<br>ANOMALY- $\sigma_{\theta}$ | $\Sigma \Delta O$<br>DTN, M.<br>$\pm 10^3$ | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>µg - ml/l | TOTAL-P<br>µg - ml/l  | NO <sub>3</sub> -N<br>µg - ml/l | NO <sub>2</sub> -N<br>µg - ml/l | SiO <sub>4</sub> -Si<br>µg - ml/l | PH  | S<br>C |                      |                |                           |     |      |
| 132                        |               | STO          | 0000               | 1610                | 3484             | 2562                  |   |  |                   |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |
|                            |               | OBS          | 0000               | 1610                | 34841            | 2562                  | 0023702                                       | 0000                                       | 15106             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |
|                            |               | STO          | 0010               | 1685                | 3526             | 2577                  |   |  | 15106             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |
| 132                        |               | STO          | 0020               | 1760                | 3557             | 2582                  | 0022406                                       | 0023                                       | 15136             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |
|                            |               | OBS          | 0025               | 1758                | 35670            | 2581                  | 0021903                                       | 0045                                       | 15163             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |
|                            |               | STO          | 0030               | 1722                | 3569             | 2601                  |   |  | 15176             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |
| 132                        |               | OBS          | 0049               | 1531                | 35747            | 2650                  | 0020178                                       | 0066                                       | 15155             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |
|                            |               | STO          | 0050               | 1530                | 3575             | 2650                  | 0015560                                       | 0102                                       | 15101             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |
|                            |               | OBS          | 0074               | 1511                | 35827            | 2660                  |   |  | 15100             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |
| 132                        |               | STO          | 0075               | 1512                | 3583             | 2660                  | 0014671                                       | 0140                                       | 15100             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |
|                            |               | OBS          | 0099               | 1524                | 35548            | 2667                  |   |  | 15109             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |
|                            |               | STO          | 0100               | 1524                | 3595             | 2667                  | 0014129                                       | 0176                                       | 15109             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |
| 132                        |               | STO          | 0125               | 1516                | 3598             | 2671                  | 0013776                                       | 0211                                       | 15111             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |
|                            |               | OBS          | 0148               | 1508                | 36015            | 2675                  |   |  | 15113             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |
|                            |               | STO          | 0150               | 1504                | 3601             | 2676                  | 0013419                                       | 0245                                       | 15112             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |
| 132                        |               | OBS          | T0197              | 1411                | 35825            | 2682                  |   |  | 15088             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |
|                            |               | STO          | 0200               | 1405                | 3581             | 2682                  | 0012962                                       | 0311                                       | 15086             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |
|                            |               | STO          | 0250               | 1311                | 3563             | 2688                  | 0012532                                       | 0374                                       | 15061             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |
| 132                        |               | OBS          | 0256               | 1246                | 35526            | 2693                  |   |  | 15046             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |
|                            |               | STO          | 0300               | 1246                | 3552             | 2692                  | 0012179                                       | 0436                                       | 15046             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |
|                            |               | OBS          | T0398              | 1172                | 35475            | 2703                  |   |  | 15036             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |
| 132                        |               | STO          | 0400               | 1168                | 3547             | 2703                  | 0011357                                       | 0554                                       | 15035             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |
|                            |               | OBS          | 0452               | 0980                | 35220            | 2718                  |   |  | 14980             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |
|                            |               | STO          | 0500               | 0958                | 3520             | 2720                  | 0009848                                       | 0660                                       | 14973             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |
| 132                        |               | OBS          | T0590              | 0746                | 35043            | 2741                  |   |  | 14906             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |
|                            |               | STO          | 0600               | 0733                | 3504             | 2742                  | 0007661                                       | 0747                                       | 14903             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |
|                            |               | STO          | 0700               | 0618                | 3501             | 2756                  | 0006392                                       | 0818                                       | 14873             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |
| 132                        |               | OBS          | 0789               | 0546                | 34993            | 2764                  |   |  | 14859             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |
|                            |               | STO          | 0800               | 0542                | 3499             | 2764                  | 0005616                                       | 0878                                       | 14859             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |
|                            |               | STO          | 0900               | 0511                | 3500             | 2768                  | 0005300                                       | 0932                                       | 14863             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |
| 132                        |               | OBS          | T0994              | 0484                | 35003            | 2772                  |   |  | 14868             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |
|                            |               | STO          | 1000               | 0482                | 3500             | 2772                  | 0005020                                       | 0984                                       | 14868             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |
|                            |               | STO          | 1100               | 0457                | 3500             | 2775                  | 0004803                                       | 1033                                       | 14874             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |
| 132                        |               | STO          | 1200               | 0436                | 3500             | 2777                  | 0004633                                       | 1080                                       | 14883             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |
|                            |               | STO          | 1300               | 0417                | 3499             | 2778                  | 0004558                                       | 1126                                       | 14891             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |
|                            |               | STO          | 1400               | 0402                | 3497             | 2778                  | 0004603                                       | 1172                                       | 14901             |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |
| 132                        | OBS           | 1485         | 0392               | 34956               | 2778             |                       |   | 14911                                      |                   |                     |                                 |                       |                                 |                                 |                                   |     |        |                      |                |                           |     |      |

| REFERENCE                  |               | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | DRIFT<br>INDICATOR | MARDEN<br>SQUARE |   | STATION TIME<br>(GMT) |   |                   | YEAR                | ORIGINATOR'S                    |                      | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPL'S  | WAVE<br>OBSERVATIONS            |                                   |     |                 | WEA-<br>THER<br>CODE | CLOUD<br>CODES |      | NODC<br>STATION<br>NUMBER |
|----------------------------|---------------|--------------|--------------------|---------------------|--------------------|------------------|---|-----------------------|---|-------------------|---------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|---------------------------------|-----------------------------------|-----|-----------------|----------------------|----------------|------|---------------------------|
| CRUISE<br>CODE             | ID.<br>NO.    |              |                    |                     |                    | 10'              | 1'  | MO                    | DAY   | HR.1/10           |                     | CRUISE<br>NO.                   | STATION<br>NUMBER    |                                 |                                 | DIR                             | HGT                               | PER | SEA             |                      | TYPE           | AMT  |                           |
| 311339                     | DG            | 4402 N       | 04054 W            | 149                 | 40                 | 07               | 29  | 124                   | 1968  | 021               | 016                 | 4663                            | 14                   | 14                              | 2                               | 3                               |                                   | X1  | 3               | 5                    |                | 0016 |                           |
|                            |               |              |                    |                     |                    |                  |   |                       |   |                   |                     |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
|                            |               |              |                    | WATER               |                    | WIND             |   | BARO-<br>METER        |   | AIR TEMP. °C      |                     | VIS<br>CODE                     | NO.<br>OBS.<br>DEPTH | SPECIAL<br>OBSERVATIONS         |                                 |                                 |                                   |     |                 |                      |                |      |                           |
|                            |               |              |                    | COLOR<br>CODE       | TRANS-<br>(m)      | DIR              | SPEED<br>OR<br>FORCE                          | INCH                  | MM  | DRY<br>BULB       | WET<br>BULB         |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
|                            |               |              |                    |                     |                    |                  | 12  | 520                   | 255   | 178               | 156                 | 7                               | 14                   |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
| MESSAGE<br>TIME<br>HR 1/10 | CAS-<br>T NO. | CARD<br>TYPE | DEPTH (m)          | T °C                | S ‰                | SIGMA-T          | SPECIFIC VOLUME<br>ANOMALY- $\sigma_{\theta}$ |                       | $\Sigma \Delta O$<br>DTN, M.<br>$\times 10^3$ | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>µg - ml/l | TOTAL-P<br>µg - ml/l | NO <sub>3</sub> -N<br>µg - ml/l | NO <sub>2</sub> -N<br>µg - ml/l | NO <sub>3</sub> -N<br>µg - ml/l | SiO <sub>4</sub> -Si<br>µg - ml/l | PH  | CO <sub>2</sub> |                      |                |      |                           |
| 132                        |               | STO          | 0000               | 1752                | 3497               | 2528             | 0026970                                       |                       | 0000  | 15162             |                     |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
|                            |               | OBS          | 0000               | 1752                | 34965              | 2528             |   |                       |   | 15162             |                     |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
|                            |               | STO          | 0010               | 1793                | 3498               | 2529             | 0026920                                       |                       | 0027  | 15164             |                     |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
| 132                        |               | STO          | 0020               | 1793                | 3499               | 2530             | 0026876                                       |                       | 0054  | 15166             |                     |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
|                            |               | OBS          | 0022               | 1793                | 34993              | 2530             |   |                       |   | 15166             |                     |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
|                            |               | STO          | 0030               | 1830                | 3558               | 2566             | 0023499                                       |                       | 0079  | 15185             |                     |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
| 132                        |               | OBS          | 0044               | 1844                | 36226              | 2612             |   |                       |   | 15199             |                     |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
|                            |               | STO          | 0050               | 1806                | 3624               | 2622             | 0018207                                       |                       | 0121  | 15190             |                     |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
|                            |               | OBS          | 0066               | 1735                | 36267              | 2642             |   |                       |   | 15172             |                     |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
| 132                        |               | STO          | 0075               | 1732                | 3630               | 2645             | 0016126                                       |                       | 0164  | 15173             |                     |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
|                            |               | OBS          | 0089               | 1712                | 36306              | 2650             |   |                       |   | 15169             |                     |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
|                            |               | STO          | 0100               | 1663                | 3620               | 2654             | 0015360                                       |                       | 0203  | 15155             |                     |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
| 132                        |               | STO          | 0125               | 1556                | 3601               | 2662             | 0014674                                       |                       | 0241  | 15127             |                     |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
|                            |               | OBS          | 0133               | 1539                | 35970              | 2665             |   |                       |   | 15120             |                     |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
|                            |               | STO          | 0150               | 1455                | 3555               | 2673             | 0013665                                       |                       | 0276  | 15109             |                     |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
| 132                        |               | OBS          | 0179               | 1427                | 35902              | 2684             |   |                       |   | 15091             |                     |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
|                            |               | STO          | 0200               | 1386                | 3580               | 2685             | 0012643                                       |                       | 0342  | 15080             |                     |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
|                            |               | STO          | 0250               | 1302                | 3562               | 2689             | 0012428                                       |                       | 0404  | 15058             |                     |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
| 132                        |               | OBS          | 0270               | 1275                | 35574              | 2691             |   |                       |   | 15052             |                     |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
|                            |               | STO          | 0300               | 1259                | 3557               | 2693             | 0012092                                       |                       | 0466  | 15051             |                     |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
|                            |               | OBS          | T0361              | 1104                | 35507              | 2701             |   |                       |   | 15038             |                     |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
| 132                        |               | STO          | 0400               | 1139                | 3544               | 2706             | 0011041                                       |                       | 0581  | 15025             |                     |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
|                            |               | OBS          | 0456               | 1002                | 35250              | 2716             |   |                       |   | 14983             |                     |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
|                            |               | STO          | 0500               | 0750                | 3493               | 2725             | 0009152                                       |                       | 0682  | 14907             |                     |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
| 132                        |               | OBS          | T0554              | 0597                | 34664              | 2731             |   |                       |   | 14836             |                     |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
|                            |               | STO          | 0600               | 0569                | 3473               | 2740             | 0007668                                       |                       | 0766  | 14834             |                     |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
|                            |               | STO          | 0700               | 0520                | 3485               | 2755             | 0006272                                       |                       | 0836  | 14832             |                     |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
| 132                        |               | OBS          | 0747               | 0502                | 34896              | 2761             |   |                       |   | 14833             |                     |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
|                            |               | STO          | 0800               | 0493                | 3492               | 2764             | 0005527                                       |                       | 0895  | 14838             |                     |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
|                            |               | STO          | 0900               | 0477                | 3496               | 2769             | 0005140                                       |                       | 0949  | 14843             |                     |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
| 132                        |               | OBS          | T0553              | 0468                | 34980              | 2772             |   |                       |   | 14854             |                     |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
|                            |               | STO          | 1000               | 0460                | 3498               | 2772             | 0004906                                       |                       | 0999  | 14855             |                     |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
|                            |               | STO          | 1100               | 0444                | 3497               | 2774             | 0004849                                       |                       | 1048  | 14869             |                     |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
| 132                        |               | STO          | 1200               | 0428                | 3497               | 2775             | 0004787                                       |                       | 1096  | 14879             |                     |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
|                            |               | STO          | 1300               | 0412                | 3496               | 2776             | 0004728                                       |                       | 1143  | 14889             |                     |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
|                            |               | STO          | 1400               | 0356                | 3495               | 2777             | 0004657                                       |                       | 1190  | 14899             |                     |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |
| 132                        | OBS           | T1444        | 0389               | 34945               | 2778               |                  |   |                       | 14903   |                   |                     |                                 |                      |                                 |                                 |                                 |                                   |     |                 |                      |                |      |                           |



TABLE XII.—Continued

| REFERENCE<br>CITY<br>CODE | SHIP<br>CODE | LATITUDE<br>1/10 | LONGITUDE<br>1/10 | ORIGIN<br>NO. | MARSden<br>SQUARE | STATION TIME<br>(GMT) |    |                 | YEAR | ORIGINATOR'S  |                   | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPLE | WAVE<br>OBSERVATIONS |      |     | WEA-<br>THER<br>CODE | CLOUD<br>CODES | NODE<br>STATION<br>NUMBER |
|---------------------------|--------------|------------------|-------------------|---------------|-------------------|-----------------------|----|-----------------|------|---------------|-------------------|-----------------------|-------------------------------|----------------------|------|-----|----------------------|----------------|---------------------------|
|                           |              |                  |                   |               |                   | 10°                   | 1' | MO DAY HR. 1/10 |      | CRUISE<br>NO. | STATION<br>NUMBER |                       |                               | DIR.                 | HGT. | PER | SEA                  |                |                           |

|                            |             |              |           | WATER         |             | WIND    |   | BARO-<br>METER                        |                   | DRY<br>BULB         |                                 | WET<br>BULB          |                                 | VIS.<br>CODE                    |                                   | OBS.<br>DEPTH |  | OBSERVATIONS |  |  |
|----------------------------|-------------|--------------|-----------|---------------|-------------|---------|---|---------------------------------------|-------------------|---------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|---------------|--|--------------|--|--|
|                            |             |              |           | COLOR<br>CODE | TRANS.<br>M | DIR.    | SPED<br>OF<br>FORCE                       | INCHES                                |                   | INCHES              |                                 | INCHES               |                                 | INCHES                          |                                   | INCHES        |  |              |  |  |
|                            |             |              |           | 13            | 515         | 244     | 172                                       | 161                                   | 7                 | 14                  |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |
| MESSAGE<br>TIME<br>HR 1/10 | CARD<br>NO. | CARD<br>TYPE | DEPTH (m) | T °C          | S ‰         | SIGMA-T | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> | Σ Δ D<br>DYN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l | NO <sub>2</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH            |  |              |  |  |
|                            |             | STO          | 0000      | 1869          | 3551        | 2551    | 0024851                                   | 0000                                  | 15191             |                     |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |
|                            |             | OBS          | 0000      | 1869          | 35508       | 2551    |   |                                       | 15191             |                     |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |
| 124                        |             | STO          | 0010      | 1875          | 3572        | 2565    | 0023499                                   | 0024                                  | 15197             |                     |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |
|                            |             | STO          | 0020      | 1882          | 3585        | 2574    | 0022743                                   | 0047                                  | 15202             |                     |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |
| 124                        |             | OBS          | 0027      | 1886          | 35499       | 2576    |   |                                       | 15205             |                     |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |
|                            |             | STO          | 0030      | 1826          | 3587        | 2589    | 0021298                                   | 0069                                  | 15188             |                     |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |
|                            |             | STO          | 0050      | 1548          | 3577        | 2648    | 0015799                                   | 0106                                  | 15107             |                     |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |
| 124                        |             | OBS          | 0052      | 1532          | 35769       | 2651    |   |                                       | 15102             |                     |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |
|                            |             | STO          | 0075      | 1524          | 3593        | 2665    | 0014196                                   | 0144                                  | 15105             |                     |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |
| 124                        |             | OBS          | 0078      | 1523          | 35949       | 2667    |   |                                       | 15106             |                     |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |
|                            |             | STO          | 0100      | 1526          | 3603        | 2673    | 0013579                                   | 0179                                  | 15111             |                     |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |
| 124                        |             | OBS          | 0103      | 1526          | 36034       | 2673    |   |                                       | 15112             |                     |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |
|                            |             | STO          | 0125      | 1511          | 3602        | 2675    | 0013418                                   | 0212                                  | 15110             |                     |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |
|                            |             | STO          | 0150      | 1496          | 3601        | 2678    | 0013249                                   | 0240                                  | 15110             |                     |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |
| 124                        |             | OBS          | 0156      | 1492          | 36001       | 2678    |   |                                       | 15109             |                     |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |
|                            |             | STO          | 0200      | 1470          | 3595        | 2679    | 0013289                                   | 0312                                  | 15108             |                     |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |
| 124                        |             | OBS          | 0206      | 1464          | 35941       | 2679    |   |                                       | 15108             |                     |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |
|                            |             | STO          | 0250      | 1357          | 3572        | 2685    | 0012789                                   | 0377                                  | 15078             |                     |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |
|                            |             | STO          | 0300      | 1264          | 3555        | 2691    | 0012335                                   | 0440                                  | 15053             |                     |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |
| 124                        |             | OBS          | 0307      | 1253          | 35537       | 2692    |   |                                       | 15050             |                     |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |
|                            |             | STO          | 0403      | 1180          | 3548        | 2702    | 0011508                                   | 0559                                  | 15039             |                     |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |
| 124                        |             | OBS          | T0408     | 1168          | 35465       | 2703    |   |                                       | 15036             |                     |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |
|                            |             | STO          | 0500      | 0965          | 3523        | 2721    | 0009745                                   | 0666                                  | 14976             |                     |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |
| 124                        |             | OBS          | 0507      | 0951          | 35216       | 2722    |   |                                       | 14972             |                     |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |
|                            |             | STO          | 0600      | 0777          | 3507        | 2738    | 0008099                                   | 0755                                  | 14920             |                     |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |
| 124                        |             | OBS          | T0606     | 0767          | 35058       | 2739    |   |                                       | 14917             |                     |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |
|                            |             | STO          | 0700      | 0643          | 3502        | 2753    | 0006667                                   | 0829                                  | 14884             |                     |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |
|                            |             | STO          | 0800      | 0546          | 3499        | 2763    | 0005699                                   | 0890                                  | 14861             |                     |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |
| 124                        |             | OBS          | 0812      | 0537          | 34988       | 2764    |   |                                       | 14859             |                     |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |
|                            |             | STO          | 0900      | 0502          | 3499        | 2768    | 0005278                                   | 0945                                  | 14859             |                     |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |
|                            |             | STO          | 1000      | 0468          | 3498        | 2772    | 0004972                                   | 0997                                  | 14862             |                     |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |
| 124                        |             | OBS          | T1022     | 0461          | 34981       | 2773    |   |                                       | 14863             |                     |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |
|                            |             | STO          | 1100      | 0451          | 3498        | 2774    | 0004870                                   | 1046                                  | 14872             |                     |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |
|                            |             | STO          | 1200      | 0438          | 3497        | 2774    | 0004875                                   | 1094                                  | 14883             |                     |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |
|                            |             | STO          | 1300      | 0425          | 3497        | 2776    | 0004802                                   | 1143                                  | 14894             |                     |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |
|                            |             | STO          | 1400      | 0411          | 3496        | 2776    | 0004798                                   | 1191                                  | 14905             |                     |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |
|                            |             | STO          | 1500      | 0398          | 3496        | 2778    | 0004717                                   | 1238                                  | 14917             |                     |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |
| 124                        |             | OBS          | T1562     | 0390          | 34954       | 2778    |   |                                       | 14924             |                     |                                 |                      |                                 |                                 |                                   |               |  |              |  |  |

| REFERENCE<br>CITY<br>CODE | SHIP<br>CODE | LATITUDE<br>1/10 | LONGITUDE<br>1/10 | ORIGIN<br>NO. | MARSden<br>SQUARE | STATION TIME<br>(GMT) |    |                 | YEAR | ORIGINATOR'S  |                   | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPLE | WAVE<br>OBSERVATIONS |      |     | WEA-<br>THER<br>CODE | CLOUD<br>CODES | NODE<br>STATION<br>NUMBER |
|---------------------------|--------------|------------------|-------------------|---------------|-------------------|-----------------------|----|-----------------|------|---------------|-------------------|-----------------------|-------------------------------|----------------------|------|-----|----------------------|----------------|---------------------------|
|                           |              |                  |                   |               |                   | 10°                   | 1' | MO DAY HR. 1/10 |      | CRUISE<br>NO. | STATION<br>NUMBER |                       |                               | DIR.                 | HGT. | PER | SEA                  |                |                           |

|                    |          |           |           | WATER      |            | WIND    |  | BARO-METER                      |                | DRY BULB            |                              | WET BULB          |                              | VIS. CODE                    |                                | OBS. DEPTHS |          | OBSERVATIONS |  |  |
|--------------------|----------|-----------|-----------|------------|------------|---------|--|---------------------------------|----------------|---------------------|------------------------------|-------------------|------------------------------|------------------------------|--------------------------------|-------------|----------|--------------|--|--|
|                    |          |           |           | COLOR CODE | TRANS. (m) | DIR.    | SPED OF FORCE                          | INCHES                          |                | INCHES              |                              | INCHES            |                              | INCHES                       |                                | INCHES      |          | INCHES       |  |  |
|                    |          |           |           | 34         | 510        | 220     | 167                                    | 167                             | 5              | 14                  |                              |                   |                              |                              |                                |             |          |              |  |  |
| MESSAGE TIME & NO. | CARD NO. | CARD TYPE | DEPTH (m) | T °C       | S ‰        | SIGMA-T | SPECIFIC VOLUME AND Δσ <sub>t</sub> -t | Σ Δ D DYN. M. x 10 <sup>3</sup> | SOUND VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P μg - ml/l | TOTAL-P μg - ml/l | NO <sub>2</sub> -N μg - ml/l | NO <sub>3</sub> -N μg - ml/l | SiO <sub>4</sub> -Si μg - ml/l | pH          | Σ C CODE |              |  |  |
| 128                | STO      | 0000      | 1708      | 3486       | 2541       | 0025794 | 0000                                   | 15136                           |                |                     |                              |                   |                              |                              |                                |             |          |              |  |  |
|                    | OBS      | 0000      | 1708      | 34861      | 2541       |         |  | 15136                           |                |                     |                              |                   |                              |                              |                                |             |          |              |  |  |
|                    | STO      | 0010      | 1744      | 3522       | 2560       | 0024036 | 0025                                   | 15153                           |                |                     |                              |                   |                              |                              |                                |             |          |              |  |  |
| 128                | STO      | 0020      | 1764      | 3552       | 2578       | 0022350 | 0048                                   | 15164                           |                |                     |                              |                   |                              |                              |                                |             |          |              |  |  |
|                    | OBS      | 0027      | 1767      | 35690      | 2590       |         |  | 15168                           |                |                     |                              |                   |                              |                              |                                |             |          |              |  |  |
|                    | STO      | 0030      | 1757      | 3574       | 2596       | 0020622 | 0070                                   | 15166                           |                |                     |                              |                   |                              |                              |                                |             |          |              |  |  |
| 128                | STO      | 0050      | 1710      | 3600       | 2627       | 0017716 | 0108                                   | 15159                           |                |                     |                              |                   |                              |                              |                                |             |          |              |  |  |
|                    | OBS      | 0053      | 1706      | 36034      | 2631       |         |  | 15158                           |                |                     |                              |                   |                              |                              |                                |             |          |              |  |  |
|                    | STO      | 0075      | 1708      | 3624       | 2646       | 0016000 | 0150                                   | 15165                           |                |                     |                              |                   |                              |                              |                                |             |          |              |  |  |
| 128                | OBS      | 0080      | 1708      | 36258      | 2648       |         |  | 15166                           |                |                     |                              |                   |                              |                              |                                |             |          |              |  |  |
|                    | STO      | 0100      | 1656      | 3616       | 2654       | 0015348 | 0189                                   | 15153                           |                |                     |                              |                   |                              |                              |                                |             |          |              |  |  |
|                    | OBS      | 0105      | 1643      | 36156      | 2655       |         |  | 15150                           |                |                     |                              |                   |                              |                              |                                |             |          |              |  |  |
| 128                | STO      | 0125      | 1587      | 3604       | 2659       | 0014914 | 0227                                   | 15134                           |                |                     |                              |                   |                              |                              |                                |             |          |              |  |  |
|                    | STO      | 0150      | 1527      | 3593       | 2665       | 0014492 | 0264                                   | 15118                           |                |                     |                              |                   |                              |                              |                                |             |          |              |  |  |
|                    | OBS      | 0159      | 1508      | 35899      | 2666       |         |  | 15114                           |                |                     |                              |                   |                              |                              |                                |             |          |              |  |  |
| 128                | STO      | 0200      | 1442      | 3583       | 2676       | 0013578 | 0334                                   | 15098                           |                |                     |                              |                   |                              |                              |                                |             |          |              |  |  |
|                    | OBS      | T0212     | 1422      | 35811      | 2678       |         |  | 15094                           |                |                     |                              |                   |                              |                              |                                |             |          |              |  |  |
|                    | STO      | 0250      | 1362      | 3571       | 2683       | 0012962 | 0400                                   | 15079                           |                |                     |                              |                   |                              |                              |                                |             |          |              |  |  |
| 128                | STO      | 0300      | 1278      | 3558       | 2690       | 0012387 | 0404                                   | 15058                           |                |                     |                              |                   |                              |                              |                                |             |          |              |  |  |
|                    | OBS      | 0314      | 1254      | 35547      | 2693       |         |  | 15051                           |                |                     |                              |                   |                              |                              |                                |             |          |              |  |  |
|                    | STO      | 0400      | 1109      | 3534       | 2704       | 0011228 | 0582                                   | 15013                           |                |                     |                              |                   |                              |                              |                                |             |          |              |  |  |
| 128                | OBS      | T0416     | 1088      | 35282      | 2707       |         |  | 15000                           |                |                     |                              |                   |                              |                              |                                |             |          |              |  |  |
|                    | STO      | 0500      | 0750      | 3479       | 2719       | 0009677 | 0636                                   | 14892                           |                |                     |                              |                   |                              |                              |                                |             |          |              |  |  |
|                    | OBS      | 0518      | 0707      | 34738      | 2722       |         |  | 14875                           |                |                     |                              |                   |                              |                              |                                |             |          |              |  |  |
| 128                | STO      | 0600      | 0569      | 3473       | 2740       | 0007691 | 0773                                   | 14833                           |                |                     |                              |                   |                              |                              |                                |             |          |              |  |  |
|                    | OBS      | 0617      | 0548      | 34725      | 2742       |         |  | 14828                           |                |                     |                              |                   |                              |                              |                                |             |          |              |  |  |
|                    | STO      | 0700      | 0537      | 3486       | 2754       | 0006417 | 0844                                   | 14839                           |                |                     |                              |                   |                              |                              |                                |             |          |              |  |  |
| 128                | STO      | 0800      | 0518      | 3496       | 2764       | 0005553 | 0904                                   | 14849                           |                |                     |                              |                   |                              |                              |                                |             |          |              |  |  |
|                    | OBS      | 0815      | 0515      | 34968      | 2765       |         |  | 14850                           |                |                     |                              |                   |                              |                              |                                |             |          |              |  |  |
|                    | STO      | 0900      | 0487      | 3497       | 2769       | 0005180 | 0957                                   | 14853                           |                |                     |                              |                   |                              |                              |                                |             |          |              |  |  |
| 128                | STO      | 1000      | 0459      | 3498       | 2773       | 0004893 | 1008                                   | 14858                           |                |                     |                              |                   |                              |                              |                                |             |          |              |  |  |
|                    | OBS      | T1013     | 0456      | 34978      | 2773       |         |  | 14859                           |                |                     |                              |                   |                              |                              |                                |             |          |              |  |  |
|                    | STO      | 1100      | 0430      | 3497       | 2775       | 0004732 | 1056                                   | 14865                           |                |                     |                              |                   |                              |                              |                                |             |          |              |  |  |
| 128                | STO      | 1200      | 0417      | 3497       | 2776       | 0004624 | 1102                                   | 14874                           |                |                     |                              |                   |                              |                              |                                |             |          |              |  |  |
|                    | STO      | 1300      | 0402      | 3496       | 2778       | 0004570 | 1148                                   | 14885                           |                |                     |                              |                   |                              |                              |                                |             |          |              |  |  |
|                    | STO      | 1400      | 0392      | 3496       | 2778       | 0004576 | 1194                                   | 14897                           |                |                     |                              |                   |                              |                              |                                |             |          |              |  |  |
| 128                | STO      | 1500      | 0387      | 3495       | 2778       | 0004635 | 1240                                   | 14912                           |                |                     |                              |                   |                              |                              |                                |             |          |              |  |  |
|                    | OBS      | T1526     | 0386      | 34945      | 2778       |         |  | 14916                           |                |                     |                              |                   |                              |                              |                                |             |          |              |  |  |



TABLE XII.—Continued

| REFERENCE                    |             | SHIP<br>CODE  | LATITUDE<br>* 1/10 | LONGITUDE<br>* 1/10 | ORIGIN<br>MOON      | MARSSEN<br>SQUARE | STATION TIME<br>(GMT)            |             | YEAR                                  | ORIGINATOR'S      |                         | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLE | WAVE<br>OBSERVATIONS            |                                 |                                    | WEA-<br>THER<br>CODE | CLOUD<br>CODE | NODC<br>STATION<br>NUMBER |     |   |      |
|------------------------------|-------------|---------------|--------------------|---------------------|---------------------|-------------------|----------------------------------|-------------|---------------------------------------|-------------------|-------------------------|---------------------------------|-------------------------------|---------------------------------|---------------------------------|------------------------------------|----------------------|---------------|---------------------------|-----|---|------|
| CTRY<br>CODE                 | IQ.<br>NO.  |               |                    |                     | 18°                 | 1'                | MO                               | DAY         | HR.1/10                               |                   | CRUISE<br>NO.           | STATION<br>NUMBER               |                               |                                 | DIR                             | HGT                                | SEA                  |               | TYPE                      | AMT |   |      |
| 311339                       | DG          |               | 4358 N             | 04100 W             |                     |                   | 149                              | 31          | 08 01 116                             | 1968              | 021                     | 019                             | 4063                          | 14                              | 04                              | 0                                  | 2                    |               | X1                        | 0   | 2 | 0019 |
|                              |             |               |                    |                     |                     |                   |                                  |             |                                       |                   |                         |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
|                              |             | WATER         | WIND               | BARO-<br>METER      | AIR TEMP. °C        |                   |                                  |             |                                       |                   |                         |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
|                              |             | COLOR<br>CODE | TRANS.<br>UNITS    | GUL                 | SPED<br>OR<br>FORCE | NO.               | DRY<br>BULB                      | WET<br>BULB | VIS<br>CODE                           | NO.<br>OBS.       | SPECIAL<br>OBSERVATIONS |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
|                              |             | 03            | S02                |                     | 179                 |                   | 178                              | 139         | 7                                     | 14                |                         |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
|                              |             |               |                    |                     |                     |                   |                                  |             |                                       |                   |                         |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
| MESSENGER<br>TIME<br>HR 1/10 | CAST<br>NO. | CARD<br>TYPE  | DEPTH (m)          | T °C                | S ‰                 | SIGMA-T           | SPECIFIC VOLUME<br>AND MALT-318* |             | Σ Δ σ<br>DTN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l     | PO <sub>4</sub> -P<br>µg - ml/l | TOTAL-P<br>µg - ml/l          | NO <sub>2</sub> -N<br>µg - ml/l | NO <sub>3</sub> -N<br>µg - ml/l | Si O <sub>2</sub> -Si<br>µg - ml/l | pH                   |               |                           |     |   |      |
| 116                          |             | STO           | 0000               | 1899                | 3590                | 2573              |                                  |             | 0022769                               | 0000              | 15204                   |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
|                              |             | ORS           | 0000               | 1859                | 35875               | 2573              |                                  |             |                                       |                   | 15204                   |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
|                              |             | STO           | 0010               | 1896                | 3599                | 2591              |                                  |             | 0022042                               | 0022              | 15206                   |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
| 116                          |             | STO           | 0020               | 1877                | 3609                | 2593              |                                  |             | 0020891                               | 0044              | 15203                   |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
|                              |             | ORS           | 0023               | 1868                | 36112               | 2597              |                                  |             |                                       |                   | 15201                   |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
|                              |             | STO           | 0030               | 1826                | 3619                | 2614              |                                  |             | 0018976                               | 0064              | 15192                   |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
| 116                          |             | ORS           | 0048               | 1736                | 36298               | 2644              |                                  |             |                                       |                   | 15170                   |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
|                              |             | STO           | 0050               | 1728                | 3629                | 2645              |                                  |             | 0016021                               | 0099              | 15168                   |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
|                              |             | ORS           | 0072               | 1656                | 36190               | 2655              |                                  |             |                                       |                   | 15148                   |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
| 116                          |             | STO           | 0075               | 1650                | 3618                | 2656              |                                  |             | 0015131                               | 0138              | 15147                   |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
|                              |             | ORS           | 0097               | 1612                | 36125               | 2660              |                                  |             |                                       |                   | 15138                   |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
|                              |             | STO           | 0100               | 1609                | 3612                | 2661              |                                  |             | 0014737                               | 0175              | 15138                   |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
| 116                          |             | STO           | 0125               | 1588                | 3612                | 2665              |                                  |             | 0014354                               | 0211              | 15136                   |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
|                              |             | ORS           | 0144               | 1572                | 36106               | 2668              |                                  |             |                                       |                   | 15134                   |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
|                              |             | STO           | 0150               | 1568                | 3610                | 2668              |                                  |             | 0014141                               | 0247              | 15133                   |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
| 116                          |             | ORS           | 0192               | 1530                | 36067               | 2674              |                                  |             |                                       |                   | 15128                   |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
|                              |             | STO           | 0200               | 1518                | 3604                | 2675              |                                  |             | 0013653                               | 0317              | 15125                   |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
|                              |             | STO           | 0250               | 1446                | 3589                | 2679              |                                  |             | 0013372                               | 0384              | 15109                   |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
| 116                          |             | ORS           | 0288               | 1393                | 35797               | 2684              |                                  |             |                                       |                   | 15097                   |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
|                              |             | STO           | 0300               | 1381                | 3578                | 2685              |                                  |             | 0012978                               | 0450              | 15094                   |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
|                              |             | ORS           | 0383               | 1270                | 35631               | 2696              |                                  |             |                                       |                   | 15069                   |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
| 116                          |             | STO           | 0400               | 1237                | 3558                | 2699              |                                  |             | 0011858                               | 0574              | 15060                   |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
|                              |             | ORS           | 0478               | 1081                | 35367               | 2711              |                                  |             |                                       |                   | 15016                   |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
|                              |             | STO           | 0500               | 1032                | 3531                | 2716              |                                  |             | 0010310                               | 0685              | 15001                   |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
| 116                          |             | ORS           | T0572              | 0881                | 35142               | 2728              |                                  |             |                                       |                   | 14956                   |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
|                              |             | STO           | 0600               | 0816                | 3510                | 2735              |                                  |             | 0008479                               | 0779              | 14935                   |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
|                              |             | ORS           | 0700               | 0629                | 3497                | 2751              |                                  |             | 0006840                               | 0856              | 14877                   |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
| 116                          |             | STO           | 0762               | 0548                | 34925               | 2758              |                                  |             |                                       |                   | 14855                   |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
|                              |             | ORS           | 0800               | 0529                | 3493                | 2761              |                                  |             | 0005918                               | 0919              | 14853                   |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
|                              |             | STO           | 0900               | 0486                | 3493                | 2766              |                                  |             | 0005477                               | 0976              | 14852                   |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
| 116                          |             | ORS           | T0956              | 0466                | 34933               | 2768              |                                  |             |                                       |                   | 14853                   |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
|                              |             | STO           | 1000               | 0460                | 3494                | 2769              |                                  |             | 0005211                               | 1030              | 14858                   |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
|                              |             | STO           | 1100               | 0446                | 3494                | 2771              |                                  |             | 0005096                               | 1081              | 14869                   |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
| 116                          |             | STO           | 1200               | 0431                | 3495                | 2773              |                                  |             | 0004976                               | 1132              | 14880                   |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
|                              |             | STO           | 1300               | 0417                | 3495                | 2775              |                                  |             | 0004852                               | 1181              | 14891                   |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
|                              |             | STO           | 1400               | 0403                | 3496                | 2777              |                                  |             | 0004722                               | 1229              | 14902                   |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |
| 116                          | ORS         | T1440         | 0397               | 34957               | 2778                |                   |                                  |             |                                       | 14906             |                         |                                 |                               |                                 |                                 |                                    |                      |               |                           |     |   |      |

| REFERENCE                  |             | SHIP<br>CODE | LATITUDE<br>* 1/10 | LONGITUDE<br>* 1/10 | MARSSEN<br>SQUARE | STATION TIME<br>IGMT |                                  |                                      | YEAR              | ORIGINATOR'S         |                                 | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPLE   | WAVE<br>OBSERVATIONS            |                                   |     | WEA-<br>THER<br>CODE | CLOUD<br>CODE | NODC<br>STATION<br>NUMBER |
|----------------------------|-------------|--------------|--------------------|---------------------|-------------------|----------------------|----------------------------------|--------------------------------------|-------------------|----------------------|---------------------------------|-----------------------|---------------------------------|---------------------------------|-----------------------------------|-----|----------------------|---------------|---------------------------|
| CTRY<br>CODE               | ID.<br>NO.  |              |                    |                     |                   | CRUISE<br>NO.        | STATION<br>NUMBER                | 10'                                  |                   | 1"                   | MO DAY HR/10                    |                       |                                 | 10'                             | 1"                                | OR. |                      |               |                           |
| 311339                     | DG          | 4400 N       | 04101 W            | 149 41              | 08 02 129         | 1968                 | 021                              | 020                                  | 4572              | 14                   | 00                              |                       |                                 | 0                               | X1                                | 0   | 4                    | 0020          |                           |
|                            |             | WATER        |                    | WIND                |                   | AIR TEMP. °C         |                                  | NO. OBS. DEPTHS                      |                   | SPECIAL OBSERVATIONS |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |
|                            |             | COLOR CODE   | TRANS. UNIT        | DIR.                | SPEED OF FORCE    | BARO-METER (mbars)   | DRY BULB                         | WET BULB                             | VIS. CODE         |                      |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |
|                            |             |              |                    | 21                  | 512               | 298                  | 206                              | 167                                  | 7                 | 14                   |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |
| MESSNGR<br>TIME<br>HR 1/10 | CAST<br>NO. | CARD<br>TYPE | DEPTH (m)          | T °C                | S ‰               | SIGMA-T              | SPECIFIC VOLUME<br>AND MALT-318* | S.D.<br>CTN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l  | PO <sub>4</sub> -P<br>µg - ml/l | TOTAL-P<br>µg - ml/l  | NO <sub>3</sub> -N<br>µg - ml/l | NO <sub>3</sub> -N<br>µg - ml/l | SiO <sub>2</sub> -Si<br>µg - ml/l | pH  | S<br>CT              |               |                           |
| 129                        |             | STO          | 0000               | 1920                | 3563              | 2547                 | 0025240                          | 0000                                 | 15207             |                      |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |
|                            |             | ORS          | 0003               | 1920                | 35625             | 2547                 |                                  |                                      | 15207             |                      |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |
|                            |             | STO          | 0010               | 1517                | 3567              | 2551                 | 0024868                          | 0025                                 | 15208             |                      |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |
| 129                        |             | STO          | 0020               | 1913                | 3572              | 2556                 | 0024458                          | 0050                                 | 15209             |                      |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |
|                            |             | ORS          | 0024               | 1912                | 35747             | 2558                 |                                  |                                      | 15210             |                      |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |
|                            |             | STO          | 0030               | 1877                | 3581              | 2572                 | 0022957                          | 0073                                 | 15202             |                      |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |
| 129                        |             | ORS          | 0049               | 1775                | 35541             | 2607                 |                                  |                                      | 15177             |                      |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |
|                            |             | STO          | 0050               | 1770                | 3594              | 2609                 | 0019517                          | 0116                                 | 15176             |                      |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |
|                            |             | ORS          | 0073               | 1665                | 35936             | 2638                 |                                  |                                      | 15149             |                      |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |
| 129                        |             | STO          | 0075               | 1658                | 3600              | 2639                 | 0016657                          | 0161                                 | 15147             |                      |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |
|                            |             | ORS          | 0098               | 1590                | 35587             | 2655                 |                                  |                                      | 15130             |                      |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |
|                            |             | STO          | 0100               | 1587                | 3599              | 2655                 | 0015235                          | 0201                                 | 15130             |                      |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |
| 129                        |             | STO          | 0125               | 1549                | 3556              | 2662                 | 0014699                          | 0238                                 | 15121             |                      |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |
|                            |             | ORS          | 0144               | 1519                | 35934             | 2667                 |                                  |                                      | 15115             |                      |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |
|                            |             | STO          | 0150               | 1509                | 3552              | 2668                 | 0014181                          | 0274                                 | 15113             |                      |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |
| 129                        |             | ORS          | T0192              | 1436                | 35628             | 2677                 |                                  |                                      | 15095             |                      |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |
|                            |             | STO          | 0200               | 1418                | 3580              | 2678                 | 0013301                          | 0343                                 | 15090             |                      |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |
|                            |             | STO          | 0250               | 1323                | 3564              | 2686                 | 0012695                          | 0408                                 | 15065             |                      |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |
| 129                        |             | ORS          | 0280               | 1279                | 35574             | 2690                 |                                  |                                      | 15055             |                      |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |
|                            |             | STO          | 0300               | 1272                | 3557              | 2691                 | 0012344                          | 0471                                 | 15056             |                      |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |
|                            |             | ORS          | T0367              | 1206                | 35514             | 2699                 |                                  |                                      | 15043             |                      |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |
| 129                        |             | STO          | 0400               | 1135                | 3543              | 2706                 | 0011041                          | 0588                                 | 15023             |                      |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |
|                            |             | ORS          | 0458               | 1015                | 35293             | 2717                 |                                  |                                      | 14988             |                      |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |
|                            |             | STO          | 0500               | 0925                | 3520              | 2725                 | 0009299                          | 0689                                 | 14961             |                      |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |
| 129                        |             | ORS          | 0548               | 0837                | 35119             | 2733                 |                                  |                                      | 14935             |                      |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |
|                            |             | STO          | 0600               | 0779                | 3511              | 2741                 | 0007850                          | 0775                                 | 14921             |                      |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |
|                            |             | STO          | 0700               | 0674                | 3509              | 2754                 | 0006607                          | 0847                                 | 14897             |                      |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |
| 129                        |             | ORS          | 0728               | 0646                | 35082             | 2758                 |                                  |                                      | 14890             |                      |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |
|                            |             | STO          | 0800               | 0572                | 3503              | 2763                 | 0005752                          | 0909                                 | 14872             |                      |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |
|                            |             | STO          | 0900               | 0489                | 3497              | 2769                 | 0005220                          | 0964                                 | 14854             |                      |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |
| 129                        |             | ORS          | T0914              | 0479                | 34964             | 2769                 |                                  |                                      | 14852             |                      |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |
|                            |             | STO          | 1000               | 0464                | 3496              | 2771                 | 0005080                          | 1016                                 | 14860             |                      |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |
|                            |             | STO          | 1100               | 0447                | 3496              | 2772                 | 0004988                          | 1066                                 | 14870             |                      |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |
| 129                        |             | STO          | 1200               | 0430                | 3496              | 2774                 | 0004892                          | 1115                                 | 14880             |                      |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |
|                            |             | STO          | 1300               | 0413                | 3495              | 2776                 | 0004789                          | 1164                                 | 14889             |                      |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |
|                            |             | ORS          | T1300              | 0397                | 34945             | 2777                 |                                  |                                      | 14898             |                      |                                 |                       |                                 |                                 |                                   |     |                      |               |                           |



TABLE XII.—Continued

| REFERENCE<br>CITY<br>CODE  | SHIP<br>CODE | LATITUDE<br>1/10 | LONGITUDE<br>1/10 | MARSSEN<br>SQUARE | STATION TIME<br>IGMT | YEAR           | ORIGINATOR'S                              |                                       | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPLE | WAVE<br>OBSERVATIONS            |                         |                                 | WEA-<br>THER<br>CODE            | CLOUD<br>CODES                    | NOQC<br>STATION<br>NUMBER |
|----------------------------|--------------|------------------|-------------------|-------------------|----------------------|----------------|---|---------------------------------------|-----------------------|-------------------------------|---------------------------------|-------------------------|---------------------------------|---------------------------------|-----------------------------------|---------------------------|
|                            |              |                  |                   |                   |                      |                | CAUSE<br>NO.                              | STATION<br>NUMBER                     |                       |                               | DIR.                            | HGT.                    | PER.                            |                                 |                                   |                           |
| 311339                     | DG           | 4404 N           | 04031 W           | 149               | 40 08 03 130         | 1968           | 021                                       | 021                                   | 4663                  | 15                            | 26                              | 1                       | 2                               | X5                              | X 9                               | 0021                      |
|                            |              |                  |                   |                   |                      |                |   |                                       |                       |                               |                                 |                         |                                 |                                 |                                   |                           |
|                            |              | WATER            |                   | WIND              |                      | BARO-<br>METER |   | AIR TEMP. °C                          |                       | VIS<br>CODE                   | NO.<br>OBS.<br>DEPTH            | SPECIAL<br>OBSERVATIONS |                                 |                                 |                                   |                           |
|                            |              | COLOR<br>CODE    | TRANS.<br>(m)     | DIR.              | SPEED<br>OR<br>FORCE | DRY<br>BULB    | WET<br>BULB                               | DRY<br>BULB                           | WET<br>BULB           |                               |                                 |                         |                                 |                                 |                                   |                           |
|                            |              |                  |                   |                   | 27                   | 512            | 234                                       | 189                                   | 189                   | 6                             | 14                              |                         |                                 |                                 |                                   |                           |
| MESSAGE<br>TIME<br>HR 1/10 | CARD<br>NO.  | CARD<br>TYPE     | DEPTH (m)         | T °C              | S ‰                  | SIGMA-T        | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> | Σ Δ D<br>OBS. M.<br>X 10 <sup>3</sup> | SOUND<br>VELOCITY     | O <sub>2</sub> ml/l           | PO <sub>4</sub> -P<br>μg - dl/l | TOTAL-P<br>μg - dl/l    | NO <sub>3</sub> -N<br>μg - dl/l | NO <sub>3</sub> -N<br>μg - dl/l | SiO <sub>4</sub> -Si<br>μg - dl/l | pH                        |
| 130                        | STD          | 0000             | 1693              | 3436              | 2506                 | 0029120        | 0000                                      | 15126                                 |                       |                               |                                 |                         |                                 |                                 |                                   |                           |
|                            | OBS          | 0000             | 1693              | 34358             | 2506                 |                |   | 15126                                 |                       |                               |                                 |                         |                                 |                                 |                                   |                           |
|                            | STD          | 0010             | 1702              | 3481              | 2524                 | 0027433        | 0028                                      | 15153                                 |                       |                               |                                 |                         |                                 |                                 |                                   |                           |
| 130                        | STD          | 0020             | 1758              | 3519              | 2544                 | 0025541        | 0055                                      | 15170                                 |                       |                               |                                 |                         |                                 |                                 |                                   |                           |
|                            | OBS          | 0025             | 1804              | 35351             | 2555                 |                |   | 15174                                 |                       |                               |                                 |                         |                                 |                                 |                                   |                           |
|                            | STD          | 0030             | 1786              | 3549              | 2570                 | 0023114        | 0079                                      | 15172                                 |                       |                               |                                 |                         |                                 |                                 |                                   |                           |
| 130                        | STD          | 0050             | 1707              | 3589              | 2620                 | 0018462        | 0121                                      | 15156                                 |                       |                               |                                 |                         |                                 |                                 |                                   |                           |
|                            | OBS          | 0050             | 1707              | 35888             | 2620                 |                |   | 15156                                 |                       |                               |                                 |                         |                                 |                                 |                                   |                           |
|                            | STD          | 0075             | 1602              | 36000             | 2653                 |                |   | 15130                                 |                       |                               |                                 |                         |                                 |                                 |                                   |                           |
| 130                        | OBS          | 0074             | 1601              | 3600              | 2653                 | 0015346        | 0163                                      | 15130                                 |                       |                               |                                 |                         |                                 |                                 |                                   |                           |
|                            | STD          | 0099             | 1570              | 36035             | 2663                 |                |   | 15125                                 |                       |                               |                                 |                         |                                 |                                 |                                   |                           |
|                            | OBS          | 0100             | 1570              | 3604              | 2663                 | 0014500        | 0200                                      | 15125                                 |                       |                               |                                 |                         |                                 |                                 |                                   |                           |
| 130                        | STD          | 0125             | 1558              | 3603              | 2665                 | 0014384        | 0236                                      | 15125                                 |                       |                               |                                 |                         |                                 |                                 |                                   |                           |
|                            | OBS          | 0148             | 1529              | 36018             | 2671                 |                |   | 15120                                 |                       |                               |                                 |                         |                                 |                                 |                                   |                           |
|                            | STD          | 0150             | 1523              | 3601              | 2672                 | 0013824        | 0272                                      | 15118                                 |                       |                               |                                 |                         |                                 |                                 |                                   |                           |
| 130                        | OBS          | T0197            | 1410              | 35791             | 2679                 |                |   | 15087                                 |                       |                               |                                 |                         |                                 |                                 |                                   |                           |
|                            | STD          | 0200             | 1408              | 3579              | 2680                 | 0013169        | 0339                                      | 15087                                 |                       |                               |                                 |                         |                                 |                                 |                                   |                           |
|                            | STD          | 0250             | 1363              | 3574              | 2685                 | 0012763        | 0404                                      | 15080                                 |                       |                               |                                 |                         |                                 |                                 |                                   |                           |
| 130                        | OBS          | 0293             | 1312              | 35680             | 2691                 |                |   | 15069                                 |                       |                               |                                 |                         |                                 |                                 |                                   |                           |
|                            | STD          | 0300             | 1305              | 3567              | 2692                 | 0012258        | 0466                                      | 15068                                 |                       |                               |                                 |                         |                                 |                                 |                                   |                           |
|                            | STD          | T0386            | 1159              | 35467             | 2705                 |                |   | 15030                                 |                       |                               |                                 |                         |                                 |                                 |                                   |                           |
| 130                        | OBS          | 0400             | 1100              | 3536              | 2707                 | 0010919        | 0582                                      | 15010                                 |                       |                               |                                 |                         |                                 |                                 |                                   |                           |
|                            | STD          | 0482             | 0851              | 34977             | 2720                 |                |   | 14928                                 |                       |                               |                                 |                         |                                 |                                 |                                   |                           |
|                            | STD          | 0500             | 0838              | 3500              | 2724                 | 0009374        | 0684                                      | 14926                                 |                       |                               |                                 |                         |                                 |                                 |                                   |                           |
| 130                        | OBS          | T0577            | 0769              | 35055             | 2739                 |                |   | 14913                                 |                       |                               |                                 |                         |                                 |                                 |                                   |                           |
|                            | STD          | 0600             | 0722              | 3503              | 2743                 | 0007573        | 0769                                      | 14898                                 |                       |                               |                                 |                         |                                 |                                 |                                   |                           |
|                            | STD          | 0700             | 0563              | 3453              | 2757                 | 0006239        | 0838                                      | 14850                                 |                       |                               |                                 |                         |                                 |                                 |                                   |                           |
| 130                        | OBS          | 0770             | 0494              | 34900             | 2762                 |                |   | 14833                                 |                       |                               |                                 |                         |                                 |                                 |                                   |                           |
|                            | STD          | 0800             | 0493              | 3492              | 2764                 | 0005527        | 0896                                      | 14838                                 |                       |                               |                                 |                         |                                 |                                 |                                   |                           |
|                            | STD          | 0900             | 0487              | 3497              | 2769                 | 0005194        | 0950                                      | 14853                                 |                       |                               |                                 |                         |                                 |                                 |                                   |                           |
| 130                        | OBS          | T0964            | 0482              | 34937             | 2772                 |                |   | 14862                                 |                       |                               |                                 |                         |                                 |                                 |                                   |                           |
|                            | STD          | 1000             | 0478              | 3499              | 2772                 | 0005013        | 1001                                      | 14866                                 |                       |                               |                                 |                         |                                 |                                 |                                   |                           |
|                            | STD          | 1100             | 0466              | 3493              | 2773                 | 0005016        | 1051                                      | 14878                                 |                       |                               |                                 |                         |                                 |                                 |                                   |                           |
| 130                        | STD          | 1200             | 0451              | 3498              | 2774                 | 0004983        | 1101                                      | 14888                                 |                       |                               |                                 |                         |                                 |                                 |                                   |                           |
|                            | STD          | 1300             | 0433              | 3497              | 2775                 | 0004899        | 1151                                      | 14898                                 |                       |                               |                                 |                         |                                 |                                 |                                   |                           |
|                            | STD          | 1400             | 0411              | 3496              | 2777                 | 0004764        | 1199                                      | 14905                                 |                       |                               |                                 |                         |                                 |                                 |                                   |                           |
| 130                        | OBS          | T1458            | 0397              | 34960             | 2778                 |                |   | 14909                                 |                       |                               |                                 |                         |                                 |                                 |                                   |                           |

| REFERENCE<br>CITY<br>CODE  | SHIP<br>CODE | LATITUDE<br>1/10 | LONGITUDE<br>1/10 | MARSSEN<br>SQUARE | STATION TIME<br>(GMT) | YEAR           | ORIGINATOR'S                              |                                       | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPLE | WAVE<br>OBSERVATIONS            |                         |                                 | WEA-<br>THER<br>CODE            | CLOUD<br>CODES                   | NOQC<br>STATION<br>NUMBER |
|----------------------------|--------------|------------------|-------------------|-------------------|-----------------------|----------------|---|---------------------------------------|-----------------------|-------------------------------|---------------------------------|-------------------------|---------------------------------|---------------------------------|----------------------------------|---------------------------|
|                            |              |                  |                   |                   |                       |                | CAUSE<br>NO.                              | STATION<br>NUMBER                     |                       |                               | DIR.                            | HGT                     | PER                             |                                 |                                  |                           |
| 311339                     | DG           | 4406 N           | 04052 W           | 149               | 40 08 04 134          | 1968           | 021                                       | 022                                   | 4663                  | 13                            | 15                              | 2                       | 2                               | X4                              | X 9                              | 0022                      |
|                            |              |                  |                   |                   |                       |                |   |                                       |                       |                               |                                 |                         |                                 |                                 |                                  |                           |
|                            |              | WATER            |                   | WIND              |                       | BARO-<br>METER |   | AIR TEMP. °C                          |                       | VIS<br>CODE                   | NO.<br>OBS.<br>DEPTH            | SPECIAL<br>OBSERVATIONS |                                 |                                 |                                  |                           |
|                            |              | COLOR<br>CODE    | TRANS.<br>(m)     | DIR.              | SPEED<br>OR<br>FORCE  | DRY<br>BULB    | WET<br>BULB                               | DRY<br>BULB                           | WET<br>BULB           |                               |                                 |                         |                                 |                                 |                                  |                           |
|                            |              |                  |                   |                   | 24                    | 517            | 190                                       | 206                                   | 206                   | 5                             | 14                              |                         |                                 |                                 |                                  |                           |
| MESSAGE<br>TIME<br>HR 1/10 | CARD<br>NO.  | CARD<br>TYPE     | DEPTH (m)         | T °C              | S ‰                   | SIGMA-T        | SPECIFIC VOLUME<br>ANOMALY-σ <sub>t</sub> | Σ Δ D<br>OBS. M.<br>X 10 <sup>3</sup> | SOUND<br>VELOCITY     | O <sub>2</sub> ml/l           | PO <sub>4</sub> -P<br>μg - dl/l | TOTAL-P<br>μg - dl/l    | NO <sub>3</sub> -N<br>μg - dl/l | NO <sub>3</sub> -N<br>μg - dl/l | SiO <sub>4</sub> -S<br>μg - dl/l | pH                        |
| 130                        | STD          | 0000             | 1965              | 3617              | 2576                  | 0022408        | 0000                                      | 15225                                 |                       |                               |                                 |                         |                                 |                                 |                                  |                           |
|                            | OBS          | 0000             | 1965              | 36169             | 2576                  |                |   | 15225                                 |                       |                               |                                 |                         |                                 |                                 |                                  |                           |
|                            | STD          | 0010             | 1964              | 3617              | 2577                  | 0022424        | 0022                                      | 15227                                 |                       |                               |                                 |                         |                                 |                                 |                                  |                           |
| 130                        | STD          | 0020             | 1962              | 3617              | 2577                  | 0022442        | 0045                                      | 15228                                 |                       |                               |                                 |                         |                                 |                                 |                                  |                           |
|                            | OBS          | 0022             | 1962              | 36165             | 2577                  |                |   | 15228                                 |                       |                               |                                 |                         |                                 |                                 |                                  |                           |
|                            | STD          | 0030             | 1952              | 3623              | 2584                  | 0021754        | 0067                                      | 15228                                 |                       |                               |                                 |                         |                                 |                                 |                                  |                           |
| 130                        | OBS          | 0043             | 1936              | 36257             | 2591                  |                |   | 15226                                 |                       |                               |                                 |                         |                                 |                                 |                                  |                           |
|                            | STD          | 0050             | 1838              | 3615              | 2607                  | 0019622        | 0108                                      | 15193                                 |                       |                               |                                 |                         |                                 |                                 |                                  |                           |
|                            | OBS          | 0065             | 1719              | 36081             | 2632                  |                |   | 15165                                 |                       |                               |                                 |                         |                                 |                                 |                                  |                           |
| 130                        | STD          | 0075             | 1749              | 3624              | 2636                  | 0016956        | 0154                                      | 15177                                 |                       |                               |                                 |                         |                                 |                                 |                                  |                           |
|                            | OBS          | 0086             | 1764              | 36361             | 2642                  |                |   | 15185                                 |                       |                               |                                 |                         |                                 |                                 |                                  |                           |
|                            | STD          | 0100             | 1717              | 3629              | 2648                  | 0015937        | 0195                                      | 15172                                 |                       |                               |                                 |                         |                                 |                                 |                                  |                           |
| 130                        | STD          | 0125             | 1645              | 3618              | 2657                  | 0015183        | 0234                                      | 15154                                 |                       |                               |                                 |                         |                                 |                                 |                                  |                           |
|                            | OBS          | 0130             | 1632              | 36160             | 2658                  |                |   | 15150                                 |                       |                               |                                 |                         |                                 |                                 |                                  |                           |
|                            | STD          | 0150             | 1592              | 3610              | 2663                  | 0014667        | 0271                                      | 15141                                 |                       |                               |                                 |                         |                                 |                                 |                                  |                           |
| 130                        | OBS          | 0171             | 1551              | 36038             | 2667                  |                |   | 15131                                 |                       |                               |                                 |                         |                                 |                                 |                                  |                           |
|                            | STD          | 0200             | 1496              | 3595              | 2673                  | 0013838        | 0343                                      | 15117                                 |                       |                               |                                 |                         |                                 |                                 |                                  |                           |
|                            | STD          | 0250             | 1404              | 3579              | 2681                  | 0013232        | 0410                                      | 15094                                 |                       |                               |                                 |                         |                                 |                                 |                                  |                           |
| 130                        | OBS          | 0251             | 1402              | 35785             | 2681                  |                |   | 15093                                 |                       |                               |                                 |                         |                                 |                                 |                                  |                           |
|                            | STD          | 0300             | 1306              | 3561              | 2687                  | 0012716        | 0475                                      | 15067                                 |                       |                               |                                 |                         |                                 |                                 |                                  |                           |
|                            | OBS          | T0328            | 1263              | 35542             | 2690                  |                |   | 15057                                 |                       |                               |                                 |                         |                                 |                                 |                                  |                           |
| 130                        | STD          | 0400             | 1202              | 3551              | 2700                  | 0011702        | 0597                                      | 15047                                 |                       |                               |                                 |                         |                                 |                                 |                                  |                           |
|                            | OBS          | 0408             | 1188              | 35491             | 2701                  |                |   | 15044                                 |                       |                               |                                 |                         |                                 |                                 |                                  |                           |
|                            | STD          | 0486             | 0962              | 35219             | 2717                  |                |   | 14930                                 |                       |                               |                                 |                         |                                 |                                 |                                  |                           |
| 130                        | OBS          | 0500             | 0959              | 3521              | 2720                  | 0007791        | 0705                                      | 14974                                 |                       |                               |                                 |                         |                                 |                                 |                                  |                           |
|                            | STD          | 0600             | 0808              | 3515              | 2740                  | 0007987        | 0794                                      | 14933                                 |                       |                               |                                 |                         |                                 |                                 |                                  |                           |
|                            | OBS          | 0651             | 0738              | 35118             | 2748                  |                |   | 14914                                 |                       |                               |                                 |                         |                                 |                                 |                                  |                           |
| 130                        | STD          | 0700             | 0672              | 3506              | 2753                  | 0006784        | 0867                                      | 14896                                 |                       |                               |                                 |                         |                                 |                                 |                                  |                           |
|                            | STD          | 0800             | 0558              | 3497              | 2760                  | 0006006        | 0931                                      | 14865                                 |                       |                               |                                 |                         |                                 |                                 |                                  |                           |
|                            | OBS          | T0841            | 0519              | 34942             | 2763                  |                |   | 14856                                 |                       |                               |                                 |                         |                                 |                                 |                                  |                           |
| 130                        | STD          | 0900             | 0508              | 3495              | 2765                  | 0005636        | 0990                                      | 14861                                 |                       |                               |                                 |                         |                                 |                                 |                                  |                           |
|                            | STD          | 1000             | 0489              | 3496              | 2767                  | 0005441        | 1045                                      | 14871                                 |                       |                               |                                 |                         |                                 |                                 |                                  |                           |
|                            | STD          | 1100             | 0471              | 3497              | 2770                  | 0005239        | 1098                                      | 14880                                 |                       |                               |                                 |                         |                                 |                                 |                                  |                           |
| 130                        | STD          | 1200             | 0452              | 3497              | 2773                  | 0005035        | 1150                                      | 14889                                 |                       |                               |                                 |                         |                                 |                                 |                                  |                           |
|                            | STD          | 1300             | 0433              | 3498              | 2776                  | 0004824        | 1199                                      | 14898                                 |                       |                               |                                 |                         |                                 |                                 |                                  |                           |
|                            | OBS          | T1329            | 0428              | 34986             | 2777                  |                |   | 14901                                 |                       |                               |                                 |                         |                                 |                                 |                                  |                           |



TABLE XIII.—Observed and interpolated oceanographic data for stations taken by USCGC COOK INLET at Ocean Station DELTA, 5 August–25 August 1968, prepared from NODC listing No. 31-1316 CO.

| REFERENCE<br>CTRY<br>CODE  | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | DEPTH<br>M             | MARSDEN<br>SQUARE | STATION TIME |                               |                                      | YEAR              | ORIGINATOR'S         |                                 | DEPTH<br>TO<br>BOTTOM | WAL<br>DEPTH<br>OF<br>SAMPL     | WAVE<br>OBSERVATIONS            |                                   |      | WEA-<br>THER<br>CODE | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |     |      |
|----------------------------|--------------|--------------------|---------------------|------------------------|-------------------|--------------|-------------------------------|--------------------------------------|-------------------|----------------------|---------------------------------|-----------------------|---------------------------------|---------------------------------|-----------------------------------|------|----------------------|----------------|---------------------------|-----|------|
|                            |              |                    |                     |                        |                   |              |                               |                                      |                   | CRUISE<br>NO.        | STATION<br>NUMBER               |                       |                                 | DIR.                            | HGT.                              | PER. |                      |                |                           | SEA |      |
|                            |              |                    |                     |                        |                   | 10'          | 1'                            | MO DAY HR 1/10                       |                   |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
| 311314                     | CO           | 4347 N             | 0410 W              | 14                     | 14                | 00 05 17     | 1968                          | 022                                  | JUL               |                      |                                 | 4627                  |                                 | 26                              | 4                                 | 0    |                      | X2             | 6                         | 0   | 0001 |
|                            |              |                    |                     |                        |                   |              |                               |                                      |                   |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              |                    |                     | WATER<br>COLOR<br>CODE | WIND              |              | BARO-<br>METER<br>(mb)        | AIR TEMP. °C                         |                   | NO.<br>OBS.<br>DEPTH | SPECIAL<br>OBSERVATIONS         |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              |                    |                     |                        | TRANS.<br>(m)     | DIR.         |                               | DRY<br>BULB                          | WET<br>BULB       |                      | VIS<br>CODE                     |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              |                    |                     |                        |                   |              |                               |                                      |                   |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
| MESSAGE<br>TIME<br>HR 1/10 | CASST<br>NO. | CARD<br>TYPE       | DEPTH (m)           | T °C                   | S ‰               | SIGMA-T      | SPECIFIC VOLUME<br>ANOMALY-20 | Σ Δ D.<br>DYN. M.<br>10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l  | PO <sub>4</sub> -P<br>pg - ml/l | TOTAL-P<br>pg - ml/l  | NO <sub>3</sub> -N<br>pg - ml/l | NO <sub>3</sub> -N<br>pg - ml/l | SiO <sub>4</sub> -Si<br>pg - ml/l | PH   | CTD                  |                |                           |     |      |
| 176                        | STS          | 0000               | 0000                | 14.0                   | 35.4              | 25.0         | 002345                        | 0000                                 | 15224             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0000               | 0000                | 14.0                   | 35.4              | 25.0         |                               |                                      | 15224             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0010               | 0010                | 14.0                   | 35.4              | 25.0         | 002350                        | 0023                                 | 15222             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
| 176                        | STS          | 0020               | 0020                | 14.0                   | 35.4              | 25.0         | 002355                        | 0047                                 | 15221             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0025               | 0025                | 14.0                   | 35.4              | 25.0         |                               |                                      | 15220             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0030               | 0030                | 14.0                   | 35.4              | 25.0         | 002215                        | 0070                                 | 15208             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
| 176                        | STS          | 0040               | 0040                | 14.0                   | 35.4              | 25.0         | 001527                        | 0111                                 | 15179             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0050               | 0050                | 14.0                   | 35.4              | 25.0         |                               |                                      | 15179             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0055               | 0055                | 14.0                   | 35.4              | 25.0         | 001652                        | 0155                                 | 15195             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
| 176                        | STS          | 0070               | 0070                | 14.0                   | 35.4              | 25.0         |                               |                                      | 15190             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0075               | 0075                | 14.0                   | 35.4              | 25.0         | 001613                        | 0156                                 | 15180             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0100               | 0100                | 14.0                   | 35.4              | 25.0         |                               |                                      | 15176             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
| 176                        | STS          | 0102               | 0102                | 14.0                   | 35.4              | 25.0         | 001537                        | 0230                                 | 15161             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0125               | 0125                | 14.0                   | 35.4              | 25.0         | 001474                        | 0273                                 | 15145             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0150               | 0150                | 14.0                   | 35.4              | 25.0         |                               |                                      | 15147             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
| 176                        | STS          | 0152               | 0152                | 14.0                   | 35.4              | 25.0         | 001394                        | 0345                                 | 15137             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0200               | 0200                | 14.0                   | 35.4              | 25.0         |                               |                                      | 15137             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0250               | 0250                | 14.0                   | 35.4              | 25.0         | 001364                        | 0414                                 | 15126             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
| 176                        | STS          | 0300               | 0300                | 14.0                   | 35.4              | 25.0         | 001334                        | 0402                                 | 15113             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0305               | 0305                | 14.0                   | 35.4              | 25.0         |                               |                                      | 15112             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0400               | 0400                | 14.0                   | 35.4              | 25.0         | 001254                        | 0411                                 | 15079             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
| 176                        | STS          | 0410               | 0410                | 14.0                   | 35.4              | 25.0         | 001106                        | 0729                                 | 15074             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0500               | 0500                | 14.0                   | 35.4              | 25.0         |                               |                                      | 15022             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0508               | 0508                | 14.0                   | 35.4              | 25.0         | 000936                        | 0831                                 | 15018             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
| 176                        | STS          | 0600               | 0600                | 14.0                   | 35.4              | 25.0         |                               |                                      | 14971             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0614               | 0614                | 14.0                   | 35.4              | 25.0         | 000767                        | 0917                                 | 14964             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0700               | 0700                | 14.0                   | 35.4              | 25.0         | 000653                        | 0938                                 | 14912             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
| 176                        | STS          | 0800               | 0800                | 14.0                   | 35.4              | 25.0         |                               |                                      | 14874             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0812               | 0812                | 14.0                   | 35.4              | 25.0         | 000596                        | 1051                                 | 14871             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0900               | 0900                | 14.0                   | 35.4              | 25.0         | 000540                        | 1108                                 | 14883             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
| 176                        | STS          | 1000               | 1000                | 14.0                   | 35.4              | 25.0         |                               |                                      | 14884             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 1100               | 1100                | 14.0                   | 35.4              | 25.0         | 000529                        | 1162                                 | 14890             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 1200               | 1200                | 14.0                   | 35.4              | 25.0         | 000516                        | 1214                                 | 14898             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
| 176                        | STS          | 1300               | 1300                | 14.0                   | 35.4              | 25.0         | 000502                        | 1205                                 | 14906             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 1400               | 1400                | 14.0                   | 35.4              | 25.0         | 000493                        | 1315                                 | 14915             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 1500               | 1500                | 14.0                   | 35.4              | 25.0         | 000487                        | 1365                                 | 14925             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
| 176                        | STS          | 1516               | 1516                | 14.0                   | 35.4              | 25.0         |                               |                                      | 14927             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |

| REFERENCE<br>CTRY<br>CODE  | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | DEPTH<br>M             | MARSDEN<br>SQUARE | STATION TIME |                               |                                      | YEAR              | ORIGINATOR'S         |                                 | DEPTH<br>TO<br>BOTTOM | WAL<br>DEPTH<br>OF<br>SAMPL     | WAVE<br>OBSERVATIONS            |                                   |      | WEA-<br>THER<br>CODE | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |     |      |
|----------------------------|--------------|--------------------|---------------------|------------------------|-------------------|--------------|-------------------------------|--------------------------------------|-------------------|----------------------|---------------------------------|-----------------------|---------------------------------|---------------------------------|-----------------------------------|------|----------------------|----------------|---------------------------|-----|------|
|                            |              |                    |                     |                        |                   |              |                               |                                      |                   | CRUISE<br>NO.        | STATION<br>NUMBER               |                       |                                 | DIR.                            | HGT.                              | PER. |                      |                |                           | SEA |      |
|                            |              |                    |                     |                        |                   | 10'          | 1'                            | MO DAY HR 1/10                       |                   |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
| 311315                     | CO           | 4407 N             | 0405 W              | 14                     | 14                | 00 05 13     | 1968                          | 022                                  | JUL               |                      |                                 | 4545                  |                                 | 03                              | 6                                 | 3    |                      | X1             | 6                         | 5   | 0002 |
|                            |              |                    |                     |                        |                   |              |                               |                                      |                   |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              |                    |                     | WATER<br>COLOR<br>CODE | WIND              |              | BARO-<br>METER<br>(mb)        | AIR TEMP. °C                         |                   | NO.<br>OBS.<br>DEPTH | SPECIAL<br>OBSERVATIONS         |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              |                    |                     |                        | TRANS.<br>(m)     | DIR.         |                               | DRY<br>BULB                          | WET<br>BULB       |                      | VIS<br>CODE                     |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              |                    |                     |                        |                   |              |                               |                                      |                   |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
| MESSAGE<br>TIME<br>HR 1/10 | CASST<br>NO. | CARD<br>TYPE       | DEPTH (m)           | T °C                   | S ‰               | SIGMA-T      | SPECIFIC VOLUME<br>ANOMALY-20 | Σ Δ D.<br>DYN. M.<br>10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l  | PO <sub>4</sub> -P<br>pg - ml/l | TOTAL-P<br>pg - ml/l  | NO <sub>3</sub> -N<br>pg - ml/l | NO <sub>3</sub> -N<br>pg - ml/l | SiO <sub>4</sub> -Si<br>pg - ml/l | PH   | CTD                  |                |                           |     |      |
| 133                        | STS          | 0000               | 0000                | 14.0                   | 35.4              | 25.0         | 002746                        | 0000                                 | 15135             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0000               | 0000                | 14.0                   | 35.4              | 25.0         |                               |                                      | 15135             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0010               | 0010                | 14.0                   | 35.4              | 25.0         | 002527                        | 0026                                 | 15147             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
| 133                        | STS          | 0020               | 0020                | 14.0                   | 35.4              | 25.0         | 002345                        | 0050                                 | 15138             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0024               | 0024                | 14.0                   | 35.4              | 25.0         |                               |                                      | 15133             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0030               | 0030                | 14.0                   | 35.4              | 25.0         | 002136                        | 0073                                 | 15195             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
| 133                        | STS          | 0040               | 0040                | 14.0                   | 35.4              | 25.0         | 001633                        | 0111                                 | 15162             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0050               | 0050                | 14.0                   | 35.4              | 25.0         |                               |                                      | 15157             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0055               | 0055                | 14.0                   | 35.4              | 25.0         | 001654                        | 0152                                 | 15157             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
| 133                        | STS          | 0083               | 0083                | 14.0                   | 35.4              | 25.0         |                               |                                      | 15155             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0100               | 0100                | 14.0                   | 35.4              | 25.0         | 001470                        | 0170                                 | 15137             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0110               | 0110                | 14.0                   | 35.4              | 25.0         |                               |                                      | 15124             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
| 133                        | STS          | 0125               | 0125                | 14.0                   | 35.4              | 25.0         | 001423                        | 0226                                 | 15126             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0150               | 0150                | 14.0                   | 35.4              | 25.0         | 001347                        | 0261                                 | 15127             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0166               | 0166                | 14.0                   | 35.4              | 25.0         |                               |                                      | 15126             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
| 133                        | STS          | 0200               | 0200                | 14.0                   | 35.4              | 25.0         | 001376                        | 0331                                 | 15130             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0222               | 0222                | 14.0                   | 35.4              | 25.0         |                               |                                      | 15124             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0250               | 0250                | 14.0                   | 35.4              | 25.0         | 001361                        | 0394                                 | 15119             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
| 133                        | STS          | 0300               | 0300                | 14.0                   | 35.4              | 25.0         | 001322                        | 0466                                 | 15090             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0334               | 0334                | 14.0                   | 35.4              | 25.0         |                               |                                      | 15085             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0400               | 0400                | 14.0                   | 35.4              | 25.0         | 001135                        | 0532                                 | 15050             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
| 133                        | STS          | 0434               | 0434                | 14.0                   | 35.4              | 25.0         |                               |                                      | 15027             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0530               | 0530                | 14.0                   | 35.4              | 25.0         | 001373                        | 0733                                 | 14975             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0557               | 0557                | 14.0                   | 35.4              | 25.0         |                               |                                      | 14948             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
| 133                        | STS          | 0600               | 0600                | 14.0                   | 35.4              | 25.0         | 000975                        | 0758                                 | 14936             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0641               | 0641                | 14.0                   | 35.4              | 25.0         |                               |                                      | 14917             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0700               | 0700                | 14.0                   | 35.4              | 25.0         | 000720                        | 0878                                 | 14933             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
| 133                        | STS          | 0800               | 0800                | 14.0                   | 35.4              | 25.0         | 000623                        | 0946                                 | 14871             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0833               | 0833                | 14.0                   | 35.4              | 25.0         |                               |                                      | 14857             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 0900               | 0900                | 14.0                   | 35.4              | 25.0         | 000507                        | 1003                                 | 14859             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
| 133                        | STS          | 1000               | 1000                | 14.0                   | 35.4              | 25.0         | 000363                        | 1001                                 | 14870             |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |
|                            |              | 1059               | 1059                | 14.0                   | 35                |              |                               |                                      |                   |                      |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |      |



TABLE XIII.—Continued

| REFERENCE                    |              | SNIP CODE     | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MARS DEN-<br>TATION | MARS DEN-<br>SQUARE  |                                 | STATION TIME<br>(GMT)   |                   | YEAR                    | ORIGINATOR'S      |                      | DEPTH<br>TO<br>BOTTOM           | MAY. DEPTH<br>OF<br>SAMPLES     | WAVE<br>OBSERVATIONS              |                   |     | WEA-<br>THER<br>CODE | CLOUD<br>CODES | TEND-<br>TENT | NODC<br>STATION<br>NUMBER |      |  |  |  |  |  |
|------------------------------|--------------|---------------|--------------------|---------------------|---------------------|----------------------|---------------------------------|-------------------------|-------------------|-------------------------|-------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|-------------------|-----|----------------------|----------------|---------------|---------------------------|------|--|--|--|--|--|
| CRUISE<br>CODE               | ID. NO.      |               |                    |                     |                     | MO                   | DAY                             | HR.                     | 1/10              |                         | CRUISE<br>NO.     | STATION<br>NUMBER    |                                 |                                 | DIR                               | PER               | PER |                      |                |               |                           | PER  |  |  |  |  |  |
| 11                           | 11           | 11            | 11                 | 11                  | 11                  | 11                   | 11                              | 11                      | 11                | 11                      | 11                | 11                   | 11                              | 11                              | 11                                | 11                | 11  | 11                   | 11             | 11            | 11                        | 0003 |  |  |  |  |  |
| WATER                        |              | WIND          |                    | BARO-<br>METER      |                     | AIR TEMP. °C         |                                 | VIL CODE                |                   | SPECIAL<br>OBSERVATIONS |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
| COLOR<br>CODE                |              | TRANS-<br>MIT |                    | DIR.                |                     | SPEED<br>OR<br>FORCE |                                 | BARO-<br>METER          |                   | DRY<br>BULB             |                   | WET<br>BULB          |                                 | VIL CODE                        |                                   | NO. OBS.<br>DEPTH |     |                      |                |               |                           |      |  |  |  |  |  |
| 27                           |              | 50            |                    | 2                   |                     | 2                    |                                 | 2                       |                   | 172                     |                   | 1                    |                                 | 4                               |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
| WISCONSIN<br>TIME<br>NR 1/10 | CASST<br>NO. | CARD<br>TYPE  | DEPTH (m)          | T °C                | S ‰                 | SIGMA-T              | SPECIFIC VOLUME<br>ANOMALY-STEP | Σ Δ σ<br>DYN. M<br>± 10 | SOUND<br>VELOCITY | D <sub>2</sub> ml/l     | PO-4<br>pg - ml/l | TOTAL-1<br>pg - ml/l | NO <sub>3</sub> -N<br>pg - ml/l | NO <sub>3</sub> -N<br>pg - ml/l | SiO <sub>4</sub> -Si<br>pg - ml/l | pH                |     |                      |                |               |                           |      |  |  |  |  |  |
| 141                          |              | STS           | 0700               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
|                              |              | STS           | 0000               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
|                              |              | STS           | 0010               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
|                              |              | STS           | 0720               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
| 141                          |              | ORS           | 0025               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
|                              |              | STS           | 0020               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
|                              |              | STS           | 0750               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
| 141                          |              | ORS           | 0050               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
|                              |              | STS           | 0075               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
| 141                          |              | ORS           | 0075               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
|                              |              | STS           | 0100               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
| 141                          |              | ORS           | 0100               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
|                              |              | STS           | 0125               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
| 141                          |              | ORS           | 0149               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
|                              |              | STS           | 0150               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
| 141                          |              | ORS           | 0200               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
|                              |              | STS           | 0200               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
| 141                          |              | ORS           | 0200               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
|                              |              | STS           | 0250               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
| 141                          |              | ORS           | 0250               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
|                              |              | STS           | 0300               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
| 141                          |              | ORS           | 0300               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
|                              |              | STS           | 0342               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
| 141                          |              | ORS           | 0400               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
|                              |              | STS           | 0400               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
| 141                          |              | ORS           | 0485               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
|                              |              | STS           | 0500               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
| 141                          |              | ORS           | 0509               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
|                              |              | STS           | 0600               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
| 141                          |              | STS           | 0700               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
|                              |              | ORS           | 0775               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
| 141                          |              | STS           | 0800               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
|                              |              | STS           | 0900               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
| 141                          |              | ORS           | 1005               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
|                              |              | STS           | 1000               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
| 141                          |              | STS           | 1100               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
|                              |              | STS           | 1200               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
| 141                          |              | STS           | 1300               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
|                              |              | STS           | 1400               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
| 141                          |              | ORS           | 1448               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |
|                              |              | ORS           | 1448               | 1347                | 35.4                | 2507                 | 0023340                         | 0000                    | 15186             |                         |                   |                      |                                 |                                 |                                   |                   |     |                      |                |               |                           |      |  |  |  |  |  |

| REFERENCE<br>CST<br>CODE  | SHIP<br>CODE | LATITUDE<br>1/10 | LONGITUDE<br>1/10 | MOON<br>ANGLE                | MARSden<br>SQUAD |              | STATION TIME<br>ICAD            |                            | YEAR              | ORIGINATOR'S        |                    | DEPTH<br>TO<br>BOTTOM   | MAX. DEPTH<br>S/M, %            | WAVE<br>OBSERVATIONS            |                                   |      | WEA-<br>THER<br>CODE | CLOUD<br>CODES | TO<br>STATION<br>NUMBER | NDC<br>STATION<br>NUMBER |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
|---|--------------|------------------|-------------------|------------------------------|------------------|--------------|---------------------------------|----------------------------|-------------------|---------------------|--------------------|-------------------------|---------------------------------|---------------------------------|-----------------------------------|------|----------------------|----------------|-------------------------|--------------------------|----------------|-----|--------------|--|------------------------------|--|--------------|--|-------------|--|------------------|--|-------------------------|--|----|----|------|------|------|------|------|------|------|------|------|------|------|------|---|---|----|----|-----|-----|-----|---|----|--|--|--|--|--|
|   |              |                  |                   |                              | 10"              | 1"           | MO                              | DAY                        |                   | HR                  | 1/10               |                         |                                 | CRUISE<br>NO.                   | STATION<br>NUMBER                 | DIR  |                      |                |                         |                          | HGT            | PER | SEA          |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
|   |              |                  |                   |                              | 10"              | 1"           | MO                              | DAY                        |                   | HR                  | 1/10               |                         |                                 | 022                             | 004                               | 4045 |                      |                |                         |                          | 25             | 3   | 3            |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
| 311316  | CO           | 4401 N           | 0410 W            | 14                           | 41               | 04           | 05                              | 215                        | 1958              | 022                 | 004                | 4045                    |                                 |                                 | 25                                | 3    | 3                    | X6             | 7                       | 7                        | 0004           |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
| <table><tr><th colspan="2">WATER<br/>COLOR</th><th colspan="2">WIND<br/>DIR.</th><th colspan="2">WIND<br/>SPEED<br/>OR<br/>FORCE</th><th colspan="2">AIR TEMP. °C</th><th colspan="2">VIS<br/>CODE</th><th colspan="2">NO. OF<br/>DEPTHS</th><th colspan="2">SPECIAL<br/>OBSERVATIONS</th></tr><tr><th>10</th><th>20</th><th>DIR.</th><th>DIR.</th><th>DIR.</th><th>DIR.</th><th>DIR.</th><th>DIR.</th><th>DIR.</th><th>DIR.</th><th>DIR.</th><th>DIR.</th><th>DIR.</th><th>DIR.</th></tr><tr><td>2</td><td>5</td><td>14</td><td>14</td><td>077</td><td>171</td><td>167</td><td>7</td><td>14</td><td></td><td></td><td></td><td></td><td></td></tr></table> |              |                  |                   |                              |                  |              |                                 |                            |                   |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          | WATER<br>COLOR |     | WIND<br>DIR. |  | WIND<br>SPEED<br>OR<br>FORCE |  | AIR TEMP. °C |  | VIS<br>CODE |  | NO. OF<br>DEPTHS |  | SPECIAL<br>OBSERVATIONS |  | 10 | 20 | DIR. | DIR. | DIR. | DIR. | DIR. | DIR. | DIR. | DIR. | DIR. | DIR. | DIR. | DIR. | 2 | 5 | 14 | 14 | 077 | 171 | 167 | 7 | 14 |  |  |  |  |  |
| WATER<br>COLOR  |              | WIND<br>DIR.     |                   | WIND<br>SPEED<br>OR<br>FORCE |                  | AIR TEMP. °C |                                 | VIS<br>CODE                |                   | NO. OF<br>DEPTHS    |                    | SPECIAL<br>OBSERVATIONS |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
| 10  | 20           | DIR.             | DIR.              | DIR.                         | DIR.             | DIR.         | DIR.                            | DIR.                       | DIR.              | DIR.                | DIR.               | DIR.                    | DIR.                            |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
| 2   | 5            | 14               | 14                | 077                          | 171              | 167          | 7                               | 14                         |                   |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
| MESSAGE<br>TIME<br>HR 1/10  | CAST<br>NO.  | CARD<br>TYPE     | DEPTH (m)         | T °C                         | S °C             | SIGMA-T      | SPECIFIC VOLUME<br>ANOMALY-TEMP | S.D.D.<br>DYN. M.<br>S 10° | SOUND<br>VELOCITY | D <sub>2</sub> ml/l | PO4-P<br>µg - ml/l | TOTAL-P<br>µg - ml/l    | NO <sub>3</sub> -N<br>µg - ml/l | NO <sub>3</sub> -N<br>µg - ml/l | SiO <sub>4</sub> -Si<br>µg - ml/l | pH   |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
| 215   |              | STS              | 0000              | 1452                         | 3540             | 2547         | 0025153                         | 0000                       | 15185             |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
|   |              | STS              | 0000              | 1452                         | 3540             | 2547         |                                 |                            | 15185             |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
|   |              | STS              | 0010              | 1400                         | 3538             | 2541         | 0025014                         | 0023                       | 15175             |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
| 215   |              | STS              | 0020              | 1704                         | 3538             | 2607         | 0013529                         | 0044                       | 15155             |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
|   |              | STS              | 0026              | 1723                         | 35557            | 2620         |                                 |                            | 15160             |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
|   |              | STS              | 0030              | 1712                         | 3556             | 2624         | 0017485                         | 0053                       | 15156             |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
| 215   |              | STS              | 0050              | 1745                         | 3549             | 2642         | 0016300                         | 0057                       | 15139             |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
|   |              | STS              | 0052              | 1634                         | 3554             | 2643         |                                 |                            | 15130             |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
|   |              | STS              | 0070              | 1536                         | 3610             | 2664         | 0016305                         | 0135                       | 15126             |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
| 215   |              | STS              | 0075              | 1531                         | 36107            | 2660         |                                 |                            | 15126             |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
|   |              | STS              | 0100              | 1502                         | 3611             | 2670         | 0013744                         | 0170                       | 15123             |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
|   |              | STS              | 0104              | 1533                         | 36105            | 2671         |                                 |                            | 15123             |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
| 215   |              | STS              | 0125              | 1505                         | 3611             | 2672         | 0017023                         | 0205                       | 15125             |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
|   |              | STS              | 0150              | 1500                         | 3611             | 2674         | 0013051                         | 0239                       | 15120             |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
|   |              | STS              | 0155              | 1545                         | 36115            | 2674         |                                 |                            | 15128             |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
| 215   |              | STS              | 0200              | 1537                         | 3610             | 2675         | 0015041                         | 0307                       | 15133             |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
|   |              | STS              | T0212             | 1537                         | 36044            | 2670         |                                 |                            | 15132             |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
|   |              | STS              | 0250              | 1400                         | 3607             | 2678         | 0013536                         | 0375                       | 15127             |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
| 215   |              | STS              | 0300              | 1440                         | 3590             | 2682         | 0013317                         | 0442                       | 15115             |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
|   |              | STS              | 0311              | 1425                         | 35975            | 2682         |                                 |                            | 15112             |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
|   |              | STS              | 0400              | 1245                         | 3501             | 2691         | 0012507                         | 0572                       | 15077             |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
| 215   |              | STS              | T0410             | 1245                         | 3570             | 2696         |                                 |                            | 15070             |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
|   |              | STS              | 0500              | 1114                         | 3563             | 2703         | 0011152                         | 0640                       | 15032             |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
|   |              | STS              | 0515              | 1076                         | 35249            | 2711         |                                 |                            | 15021             |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
| 215   |              | STS              | 0600              | 0742                         | 3476             | 2727         | 0004157                         | 0712                       | 14924             |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
|   |              | STS              | T0620             | 0743                         | 34901            | 2730         |                                 |                            | 14908             |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
|   |              | STS              | 0700              | 0700                         | 3474             | 2744         | 0007074                         | 0760                       | 14906             |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
| 215   |              | STS              | 0800              | 0636                         | 3505             | 2750         | 0006507                         | 0947                       | 14848             |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
|   |              | STS              | 0815              | 0623                         | 35031            | 2758         |                                 |                            | 14840             |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
|   |              | STS              | 0900              | 0547                         | 3473             | 2763         | 0005938                         | 1009                       | 14878             |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
| 215   |              | STS              | 1000              | 0462                         | 3443             | 2768         | 0005380                         |                            | 14863             |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
|   |              | STS              | T1019             | 0460                         | 34925            | 2768         |                                 |                            | 14861             |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
|   |              | STS              | 1100              | 0452                         | 3403             | 2770         | 0005260                         | 1113                       | 14872             |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
| 215   |              | STS              | 1200              | 0443                         | 3474             | 2771         | 0005135                         | 1170                       | 14854             |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
|   |              | STS              | 1300              | 0433                         | 3474             | 2773         | 0005115                         | 1222                       | 14837             |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
|   |              | STS              | 1400              | 0424                         | 3445             | 2774         | 0005043                         | 1273                       | 14910             |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
| 215   |              | STS              | 1500              | 0414                         | 3436             | 2776         | 0004961                         | 1323                       | 14923             |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |
|   |              | STS              | T1525             | 0412                         | 34457            | 2775         |                                 |                            | 14925             |                     |                    |                         |                                 |                                 |                                   |      |                      |                |                         |                          |                |     |              |  |                              |  |              |  |             |  |                  |  |                         |  |    |    |      |      |      |      |      |      |      |      |      |      |      |      |   |   |    |    |     |     |     |   |    |  |  |  |  |  |



TABLE XIII.—Continued

| REFERENCE                   |             | SHIP<br>CODE | LATITUDE<br>° '"/10 | LONGITUDE<br>° '"/10 | MARS DEN<br>SQUARE<br>10° 1' | STATION TIME<br>(GMT) |  |                                       | YEAR              | ORIGINATOR'S        |                                 | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPLE'S | WAVE<br>OBSERVATIONS            |                                   |     | WEA-<br>THER<br>CODE | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |
|-----------------------------|-------------|--------------|---------------------|----------------------|------------------------------|-----------------------|--|---------------------------------------|-------------------|---------------------|---------------------------------|-----------------------|---------------------------------|---------------------------------|-----------------------------------|-----|----------------------|----------------|---------------------------|
| CTRY<br>CODE                | ID.<br>NO.  |              |                     |                      |                              | MO                    | DAY  | HR./10                                |                   | CRUISE<br>NO.       | STATION<br>NUMBER               |                       |                                 | DIR.                            | HGT                               | PER |                      |                |                           |
| 311315                      | CO          |              | 4346 N              | 04054 W              | 149                          | 30                    | 08   | 10                                    | 1963              | 022                 | 005                             | 4645                  |                                 | 27                              | 5                                 | 4   | X1                   | 03             | 0005                      |
|                             |             |              |                     |                      |                              |                       |  |                                       |                   |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |             |              |                     |                      | WATER                        | WIND                  |  | BARO-<br>METER<br>(mb)                | AIR TEMP. °C      |                     | WET<br>RULB                     | NO.<br>OBS.<br>DEPTHS | SPECIAL<br>OBSERVATIONS         |                                 |                                   |     |                      |                |                           |
|                             |             |              |                     |                      | COLOR<br>CODE                | TRANS.<br>MT          | DIR.                                       |                                       | DRY<br>RULB       |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |             |              |                     |                      |                              |                       | 27   | 154                                   | 159               | 172                 | 132                             | 7                     |                                 |                                 |                                   |     |                      | 14             |                           |
| MESSAGE<br>TIME<br>HR. 1/10 | CAST<br>NO. | CARD<br>TYPE | DEPTH (m)           | T °C                 | S ‰                          | SIGMA-T               | SPECIFIC VOLUME<br>ANGMALT-10 <sup>3</sup> | Σ Δ D<br>DTN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l  | NO <sub>2</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH  | DOC                  |                |                           |
|                             |             | STO          | 0000                | 1814                 | 3523                         | 2545                  | 0025360                                    | 0000                                  | 15172             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 130                         |             | OBS          | 0000                | 1814                 | 35255                        | 2545                  |  |                                       | 15172             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |             | STO          | 0010                | 1847                 | 3578                         | 2577                  | 0022404                                    | 0023                                  | 15199             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |             | STO          | 0020                | 1879                 | 3612                         | 2595                  | 0020701                                    | 0045                                  | 15204             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 130                         |             | OBS          | 0027                | 1902                 | 36264                        | 2600                  |  |                                       | 15214             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |             | STO          | 0030                | 1897                 | 3622                         | 2608                  | 0019531                                    | 0065                                  | 15201             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |             | STO          | 0050                | 1838                 | 3602                         | 2645                  | 0015975                                    | 0101                                  | 15137             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 130                         |             | OBS          | 0054                | 1811                 | 36001                        | 2651                  |  |                                       | 15130             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |             | STO          | 0075                | 1811                 | 3610                         | 2665                  | 0014223                                    | 0138                                  | 15125             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 130                         |             | OBS          | 0081                | 1575                 | 36112                        | 2668                  |  |                                       | 15124             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |             | STO          | 0100                | 1561                 | 3611                         | 2671                  | 0013767                                    | 0173                                  | 15123             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 130                         |             | OBS          | 0103                | 1556                 | 36109                        | 2672                  |  |                                       | 15123             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |             | STO          | 0125                | 1552                 | 3611                         | 2673                  | 0013672                                    | 0208                                  | 15124             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |             | STO          | 0150                | 1545                 | 3611                         | 2674                  | 0013632                                    | 0242                                  | 15127             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 130                         |             | OBS          | 0162                | 1543                 | 36104                        | 2674                  |  |                                       | 15128             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |             | STO          | 0200                | 1534                 | 3609                         | 2675                  | 0013621                                    | 0310                                  | 15131             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 130                         |             | OBS          | 0217                | 1526                 | 36076                        | 2676                  |  |                                       | 15131             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |             | STO          | 0250                | 1504                 | 3602                         | 2676                  | 0013663                                    | 0378                                  | 15129             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |             | STO          | 0300                | 1459                 | 3592                         | 2679                  | 0013551                                    | 0446                                  | 15121             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |             | OBS          | 0320                | 1436                 | 35880                        | 2681                  |  |                                       | 15117             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 130                         |             | OBS          | 0400                | 1318                 | 3569                         | 2691                  | 0012663                                    | 0577                                  | 15089             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |             | STO          | 0500                | 1136                 | 3542                         | 2705                  | 0011397                                    | 0698                                  | 15040             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 130                         |             | OBS          | 0524                | 1058                 | 35356                        | 2709                  |  |                                       | 15026             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |             | STO          | 0600                | 0914                 | 3517                         | 2725                  | 0009559                                    | 0802                                  | 14973             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 130                         |             | OBS          | 0626                | 0864                 | 35120                        | 2729                  |  |                                       | 14958             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |             | STO          | 0700                | 0783                 | 3512                         | 2741                  | 0007996                                    | 0890                                  | 14939             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |             | STO          | 0800                | 0678                 | 3509                         | 2754                  | 0005766                                    | 0964                                  | 14915             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 130                         |             | OBS          | 0820                | 0658                 | 35083                        | 2756                  |  |                                       | 14910             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |             | STO          | 0900                | 0572                 | 3501                         | 2762                  | 0006050                                    | 1028                                  | 14888             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |             | STO          | 1000                | 0485                 | 3493                         | 2766                  | 0005544                                    | 1036                                  | 14868             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 130                         |             | OBS          | 11015               | 0474                 | 34925                        | 2767                  |  |                                       | 14866             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |             | STO          | 1100                | 0452                 | 3492                         | 2766                  | 0005416                                    | 1141                                  | 14875             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |             | STO          | 1200                | 0447                 | 3492                         | 2770                  | 0005329                                    | 1195                                  | 14886             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |             | STO          | 1300                | 0432                 | 3492                         | 2771                  | 0005244                                    | 1248                                  | 14897             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |             | STO          | 1400                | 0418                 | 3492                         | 2773                  | 0005151                                    | 1300                                  | 14907             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
|                             |             | STO          | 1500                | 0403                 | 3492                         | 2774                  | 0005052                                    | 1351                                  | 14918             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |
| 130                         |             | OBS          | 1520                | 0400                 | 34922                        | 2775                  |  |                                       | 14920             |                     |                                 |                       |                                 |                                 |                                   |     |                      |                |                           |

| REFERENCE                   |             | SHIP<br>CODE | LATITUDE<br>° '"/10 | LONGITUDE<br>° '"/10 | MARS<br>DEN<br>SQUARE | STATION TIME<br>(GMT) |  |                                       | YEAR                   | ORIGINATOR'S        |                                 | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPLE'S | WAVE<br>OBSERVATIONS            |                                   |      | WEA-<br>THER<br>CODE | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |     |
|-----------------------------|-------------|--------------|---------------------|----------------------|-----------------------|-----------------------|--|---------------------------------------|------------------------|---------------------|---------------------------------|-----------------------|---------------------------------|---------------------------------|-----------------------------------|------|----------------------|----------------|---------------------------|-----|
| TYPE<br>CODE                | ID.<br>NO.  |              |                     |                      |                       | 10"                   | 1'   | MO                                    |                        | DAY                 | HR./10                          |                       |                                 | CRUISE<br>NO.                   | STATION<br>NUMBER                 | DIR. |                      |                |                           | HGT |
| 311316                      | CO          |              | 4352 N              | 04100 W              | 149                   | 31                    | 04   | 12                                    | 1964                   | 022                 | 006                             | 4645                  |                                 | 25                              | 5                                 | 2    | X1                   | 06             | 0006                      |     |
|                             |             |              |                     |                      |                       |                       |  |                                       |                        |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             |             |              |                     |                      | WATER                 |                       | WIND                                       |                                       | BARO-<br>METER<br>(mb) | AIR TEMP. °C        |                                 | WET<br>RULB           | NO.<br>OBS.<br>DEPTHS           | SPECIAL<br>OBSERVATIONS         |                                   |      |                      |                |                           |     |
|                             |             |              |                     |                      | COLOR<br>CODE         | TRANS.<br>MT          | DIR.                                       | DRY<br>RULB                           |                        |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             |             |              |                     |                      |                       |                       | 31   | 506                                   | 143                    | 175                 | 151                             | 7                     | 14                              |                                 |                                   |      |                      |                |                           |     |
| MESSAGE<br>TIME<br>HR. 1/10 | CAST<br>NO. | CARD<br>TYPE | DEPTH (m)           | T °C                 | S ‰                   | SIGMA-T               | SPECIFIC VOLUME<br>ANGMALT-10 <sup>3</sup> | Σ Δ D<br>DTN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY      | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l  | NO <sub>2</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH   | DOC                  |                |                           |     |
|                             |             | STO          | 0300                | 1901                 | 3603                  | 2563                  | 0021809                                    | 0000                                  | 15236                  |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             | 211         | OBS          | 0300                | 1901                 | 36035                 | 2563                  |  |                                       | 15206                  |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             |             | STO          | 0010                | 1867                 | 3603                  | 2594                  | 0021762                                    | 0021                                  | 15207                  |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             |             | STO          | 0020                | 1854                 | 3603                  | 2604                  | 0021737                                    | 0043                                  | 15207                  |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             | 211         | OBS          | 0025                | 1852                 | 36034                 | 2565                  |  |                                       | 15208                  |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             |             | STO          | 0030                | 1845                 | 3603                  | 2601                  | 0020137                                    | 0064                                  | 15196                  |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             |             | STO          | 0050                | 1717                 | 3629                  | 2646                  | 0015990                                    | 0100                                  | 15164                  |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             | 211         | OBS          | 0052                | 1710                 | 36272                 | 2643                  |  |                                       | 15162                  |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             |             | STO          | 0075                | 1700                 | 3630                  | 2653                  | 0015376                                    | 0139                                  | 15164                  |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             | 211         | OBS          | 0077                | 1658                 | 36305                 | 2654                  |  |                                       | 15163                  |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             |             | STO          | 0100                | 1656                 | 3624                  | 2658                  | 0014947                                    | 0177                                  | 15154                  |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             | 211         | OBS          | 0103                | 1651                 | 36223                 | 2659                  |  |                                       | 15153                  |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             |             | STO          | 0125                | 1617                 | 36223                 | 2664                  | 0014452                                    | 0214                                  | 15145                  |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             |             | STO          | 0150                | 1544                 | 3619                  | 2669                  | 0014092                                    | 0250                                  | 15139                  |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             | 211         | OBS          | 0154                | 1541                 | 36194                 | 2670                  |  |                                       | 15134                  |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             |             | STO          | 0200                | 1500                 | 3612                  | 2674                  | 0013760                                    | 0319                                  | 15136                  |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             | 211         | OBS          | 0207                | 1455                 | 36113                 | 2674                  |  |                                       | 15136                  |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             |             | STO          | 0250                | 1533                 | 3609                  | 2676                  | 0013776                                    | 0358                                  | 15134                  |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             |             | STO          | 0300                | 1458                 | 3602                  | 2678                  | 0013632                                    | 0427                                  | 15134                  |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             | 211         | OBS          | 0307                | 1447                 | 36001                 | 2679                  |  |                                       | 15132                  |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             |             | STO          | 0400                | 1374                 | 3566                  | 2683                  | 0012944                                    | 0500                                  | 15093                  |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             | 211         | OBS          | 0413                | 1303                 | 36045                 | 2684                  |  |                                       | 15088                  |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             |             | STO          | 0500                | 1120                 | 3601                  | 2702                  | 0011761                                    | 0713                                  | 15050                  |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             | 211         | OBS          | 0510                | 1117                 | 35946                 | 2704                  |  |                                       | 15055                  |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             |             | STO          | 0600                | 0961                 | 3579                  | 2704                  | 0010152                                    | 0823                                  | 14999                  |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             | 211         | OBS          | 0612                | 0951                 | 35220                 | 2721                  |  |                                       | 14992                  |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             |             | STO          | 0700                | 0913                 | 3515                  | 2721                  | 0006053                                    | 0914                                  | 14948                  |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             |             | STO          | 0800                | 0865                 | 3510                  | 2750                  | 0006607                                    | 0937                                  | 14911                  |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             | 211         | OBS          | 0814                | 0852                 | 35030                 | 2750                  |  |                                       | 14907                  |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             |             | STO          | 0900                | 0850                 | 3503                  | 2750                  | 0005944                                    | 1050                                  | 14936                  |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             |             | STO          | 1000                | 0823                 | 3502                  | 2756                  | 0005477                                    | 1107                                  | 14947                  |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             | 211         | OBS          | 11014               | 0821                 | 35017                 | 2769                  |  |                                       | 14887                  |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             |             | STO          | 1130                | 0801                 | 3494                  | 2769                  | 0005445                                    | 1161                                  | 14892                  |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             |             | STO          | 1200                | 0477                 | 3497                  | 2770                  | 0005422                                    | 1216                                  | 14899                  |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             |             | STO          | 1300                | 0463                 | 3494                  | 2771                  | 0005368                                    | 1270                                  | 14905                  |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             |             | STO          | 1400                | 0429                 | 3494                  | 2772                  | 0005277                                    | 1323                                  | 14912                  |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             |             | STO          | 1500                | 0408                 | 3491                  | 2773                  | 0005148                                    | 1375                                  | 14919                  |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |
|                             | 211         | OBS          | 1518                | 0401                 | 34911                 | 2774                  |  |                                       | 14920                  |                     |                                 |                       |                                 |                                 |                                   |      |                      |                |                           |     |



TABLE XIII.—Continued

| REFERENCE<br>CRUISE<br>NO.  | SHIP<br>CODE | LATITUDE<br>° ' 10" | LONGITUDE<br>° ' 10" | HARSON<br>SQUARE<br>10' 1' | STATION TIME<br>(GMT) |              |                                | YEAR                                  | ORIGINATOR'S      |                     | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLE | WAVE<br>OBSERVATIONS            |                                 |                                   | WEA-<br>THER<br>CODE | CLOUD<br>CODES |     | NODE<br>STATION<br>NUMBER |
|-----------------------------|--------------|---------------------|----------------------|----------------------------|-----------------------|--------------|--------------------------------|---------------------------------------|-------------------|---------------------|---------------------------------|-------------------------------|---------------------------------|---------------------------------|-----------------------------------|----------------------|----------------|-----|---------------------------|
|                             |              |                     |                      |                            | MO                    | DAY          | HR. 1/10                       |                                       | CRUISE<br>NO.     | STATION<br>NUMBER   |                                 |                               | DIR                             | HGT                             | PER                               |                      | TYPE           | AMT |                           |
| 311314                      | CO           | 435° N              | 041° 01' W           | 140                        | 10                    | 13           | 133                            | 1950                                  | 0007              | 007                 | 4045                            |                               | 25                              | 4                               | 3                                 | X1                   | 2              | 2   | 0007                      |
|                             |              |                     |                      |                            |                       |              |                                |                                       |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             |              |                     |                      | WATER                      | WIND                  | AIR TEMP. °C |                                | SPECIAL                               |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             |              |                     |                      | COLOR                      | TRANS.                | DIR.         | SPEED<br>OF<br>FORCE           | BARO-<br>METER<br>(mb)                | DRY<br>BULB       | WET<br>BULB         | VIS.<br>CODE                    | NO.<br>OBS.<br>DEPTH          |                                 |                                 |                                   |                      |                |     |                           |
|                             |              |                     |                      | 23                         | 505                   | 205          | 175                            | 150                                   | 7                 | 14                  |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
| MESSAGE<br>TIME<br>HR. 1/10 | CASE<br>NO.  | CARD<br>TYPE        | DEPTH (m)            | T °C                       | S ‰                   | SIGMA-T      | SPECIFIC VOLUME<br>ANOMALY-20° | Σ Δ ρ<br>DYN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l          | NO <sub>2</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH                   | CODE           |     |                           |
| 135                         | ORS          | STO                 | 0000                 | 1247                       | 3500                  | 2560         | 0023135                        | 0000                                  | 15105             |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | ORS          | STO                 | 0000                 | 1242                       | 3504                  | 2560         |                                |                                       | 15105             |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | STO          | 0010                | 1237                 | 3500                       | 2570                  | 0023075      | 0023                           | 15105                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
| 135                         | STO          | 0020                | 1232                 | 3500                       | 2571                  | 0022900      | 0045                           | 15105                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | ORS          | STO                 | 0025                 | 1230                       | 3500                  | 2572         |                                |                                       | 15106             |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | STO          | 0030                | 1220                 | 3573                       | 2589                  | 0021200      | 0068                           | 15173                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
| 135                         | STO          | 0050                | 1218                 | 3592                       | 2635                  | 0010017      | 0130                           | 15135                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | ORS          | STO                 | 0051                 | 1210                       | 35920                 | 2641         |                                |                                       | 15134             |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | STO          | 0075                | 1573                 | 3500                       | 2652                  | 0014874      | 0145                           | 15123                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
| 135                         | ORS          | STO                 | 0075                 | 1576                       | 35000                 | 2659         |                                |                                       | 15122             |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | STO          | 0100                | 1555                 | 3500                       | 2660                  | 0014172      | 0131                           | 15120                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | ORS          | STO                 | 0102                 | 1554                       | 35030                 | 2657         |                                |                                       | 15120             |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
| 135                         | STO          | 0125                | 1554                 | 3500                       | 2670                  | 0013924      | 0216                           | 15122                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | STO          | 0150                | 1552                 | 3507                       | 2673                  | 0013729      | 0251                           | 15123                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | ORS          | STO                 | 0152                 | 1537                       | 35007                 | 2673         |                                |                                       | 15124             |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
| 135                         | STO          | 0200                | 1524                 | 3507                       | 2675                  | 0013555      | 0319                           | 15127                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | ORS          | STO                 | 0205                 | 1520                       | 35072                 | 2677         |                                |                                       | 15127             |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | STO          | 0250                | 1434                 | 3597                       | 2680                  | 0013260      | 0336                           | 15105                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
| 135                         | STO          | 0300                | 1350                 | 3571                       | 2684                  | 0013003      | 0452                           | 15085                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | ORS          | STO                 | 0305                 | 1349                       | 35694                 | 2585         |                                |                                       | 15084             |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | STO          | 0400                | 1264                 | 3559                       | 2694                  | 0012319      | 0579                           | 15070                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
| 135                         | ORS          | STO                 | 0410                 | 1240                       | 35501                 | 2695         |                                |                                       | 15065             |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | STO          | 0500                | 0991                 | 3512                       | 2708                  | 0011015      | 0695                           | 14984                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | ORS          | STO                 | 0503                 | 0970                       | 35080                 | 2709         |                                |                                       | 14977             |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
| 135                         | STO          | 0600                | 0738                 | 3437                       | 2728                  | 0008980      | 0795                           | 14902                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | ORS          | STO                 | 0614                 | 0710                       | 34850                 | 2731         |                                |                                       | 14893             |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | STO          | 0700                | 0602                 | 3486                       | 2746                  | 0007293      | 0877                           | 14865                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
| 135                         | STO          | 0800                | 0517                 | 3488                       | 2758                  | 0006139      | 0944                           | 14848                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | ORS          | STO                 | 0812                 | 0510                       | 34663                 | 2759         |                                |                                       | 14847             |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | STO          | 0900                | 0500                 | 3493                       | 2764                  | 0005680      | 1033                           | 14858                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
| 135                         | STO          | 1000                | 0487                 | 3497                       | 2769                  | 0005318      | 1058                           | 14870                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | ORS          | STO                 | 11014                | 0435                       | 34973                 | 2759         |                                |                                       | 14871             |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | STO          | 1100                | 0472                 | 3497                       | 2775                  | 0005250      | 1111                           | 14880                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
| 135                         | STO          | 1200                | 0450                 | 3496                       | 2771                  | 0005197      | 1163                           | 14890                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | STO          | 1300                | 0439                 | 3495                       | 2773                  | 0005122      | 1214                           | 14900                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | STO          | 1400                | 0419                 | 3494                       | 2774                  | 0005010      | 1265                           | 14906                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
| 135                         | STO          | 1500                | 0398                 | 3494                       | 2776                  | 0004866      | 1315                           | 14916                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | ORS          | STO                 | 1520                 | 0354                       | 34935                 | 2776         |                                |                                       | 14918             |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |

| REFERENCE<br>CRUISE<br>NO.  | SHIP<br>CODE | LATITUDE<br>° ' 10" | LONGITUDE<br>° ' 10" | HARSON<br>SQUARE<br>10' 1' | STATION TIME<br>(GMT) |              |                                | YEAR                                  | ORIGINATOR'S      |                     | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLE | WAVE<br>OBSERVATIONS            |                                 |                                   | WEA-<br>THER<br>CODE | CLOUD<br>CODES |     | NODE<br>STATION<br>NUMBER |
|-----------------------------|--------------|---------------------|----------------------|----------------------------|-----------------------|--------------|--------------------------------|---------------------------------------|-------------------|---------------------|---------------------------------|-------------------------------|---------------------------------|---------------------------------|-----------------------------------|----------------------|----------------|-----|---------------------------|
|                             |              |                     |                      |                            | MO                    | DAY          | HR. 1/10                       |                                       | CRUISE<br>NO.     | STATION<br>NUMBER   |                                 |                               | DIR                             | HGT                             | PER                               |                      | TYPE           | AMT |                           |
| 311315                      | CO           | 4402° N             | 04054° W             | 149                        | 40                    | 08           | 190                            | 1950                                  | 022               | 003                 | 4045                            |                               | 27                              | 3                               | 3                                 | X1                   | 2              | 3   | 0008                      |
|                             |              |                     |                      |                            |                       |              |                                |                                       |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             |              |                     |                      | WATER                      | WIND                  | AIR TEMP. °C |                                | SPECIAL                               |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             |              |                     |                      | COLOR                      | TRANS.                | DIR.         | SPEED<br>OF<br>FORCE           | BARO-<br>METER<br>(mb)                | DRY<br>BULB       | WET<br>BULB         | VIS.<br>CODE                    | NO.<br>OBS.<br>DEPTH          |                                 |                                 |                                   |                      |                |     |                           |
|                             |              |                     |                      | 22                         | 504                   | 210          | 191                            | 151                                   | 7                 | 14                  |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
| MESSAGE<br>TIME<br>HR. 1/10 | CASE<br>NO.  | CARD<br>TYPE        | DEPTH (m)            | T °C                       | S ‰                   | SIGMA-T      | SPECIFIC VOLUME<br>ANOMALY-20° | Σ Δ ρ<br>DYN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l          | NO <sub>2</sub> -N<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH                   | CODE           |     |                           |
| 190                         | ORS          | STO                 | 0000                 | 2003                       | 3583                  | 2540         | 0025351                        | 0000                                  | 15232             |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | ORS          | STO                 | 0000                 | 2003                       | 35826                 | 2540         |                                |                                       | 15232             |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | STO          | 0010                | 1900                 | 3500                       | 2551                  | 0024890      | 0025                           | 15222                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
| 190                         | STO          | 0020                | 1911                 | 3580                       | 2562                  | 0023809      | 0049                           | 15210                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | ORS          | STO                 | 0025                 | 1885                       | 35749                 | 2569         |                                |                                       | 15203             |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | STO          | 0030                | 1845                 | 3540                       | 2597                  | 0021550      | 0072                           | 15193                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
| 190                         | STO          | 0050                | 1735                 | 3514                       | 2637                  | 0016832      | 0110                           | 15166                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | ORS          | STO                 | 0051                 | 1724                       | 35180                 | 2639         |                                |                                       | 15155             |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | STO          | 0075                | 1654                 | 3527                       | 2654                  | 0015266      | 0150                           | 15138                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
| 190                         | ORS          | STO                 | 0076                 | 1642                       | 35272                 | 2655         |                                |                                       | 15138             |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | STO          | 0100                | 1594                 | 3513                       | 2664                  | 0014423      | 0158                           | 15135                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | ORS          | STO                 | 0102                 | 1584                       | 35126                 | 2664         |                                |                                       | 15134             |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
| 190                         | STO          | 0125                | 1575                 | 3512                       | 2668                  | 0014074      | 0223                           | 15132                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | STO          | 0150                | 1559                 | 3512                       | 2672                  | 0013834      | 0258                           | 15131                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | ORS          | STO                 | 0152                 | 1558                       | 35116                 | 2672         |                                |                                       | 15131             |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
| 190                         | STO          | 0200                | 1532                 | 3509                       | 2676                  | 0013603      | 0327                           | 15130                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | ORS          | STO                 | 0204                 | 1529                       | 35084                 | 2676         |                                |                                       | 15130             |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | STO          | 0250                | 1465                 | 3555                       | 2673                  | 0013353      | 0394                           | 15117                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
| 190                         | STO          | 0300                | 1407                 | 3533                       | 2683                  | 0013156      | 0401                           | 15104                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | ORS          | STO                 | 0307                 | 1399                       | 35815                 | 2684         |                                |                                       | 15102             |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | STO          | 0400                | 1300                 | 3565                       | 2692                  | 0012500      | 0584                           | 15083                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
| 190                         | ORS          | STO                 | 0406                 | 1285                       | 35637                 | 2693         |                                |                                       | 15080             |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | STO          | 0500                | 1129                 | 3543                       | 2707                  | 0011143      | 0708                           | 15037                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | ORS          | STO                 | 0510                 | 1110                       | 35404                 | 2705         |                                |                                       | 15032             |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
| 190                         | STO          | 0600                | 0579                 | 3519                       | 2724                  | 0009500      | 0312                           | 14977                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | ORS          | STO                 | 0610                 | 0505                       | 35167                 | 2725         |                                |                                       | 14972             |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | STO          | 0700                | 0722                 | 3503                       | 2745                  | 0007716      | 0403                           | 14915                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
| 190                         | STO          | 0800                | 0574                 | 3494                       | 2750                  | 0006402      | 0459                           | 14873                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | ORS          | STO                 | 0813                 | 0564                       | 34935                 | 2757         |                                |                                       | 14872             |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | STO          | 0900                | 0528                 | 3495                       | 2762                  | 0005870      | 1031                           | 14870                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
| 190                         | STO          | 1000                | 0483                 | 3497                       | 2768                  | 0005403      | 1088                           | 14872                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | ORS          | STO                 | 11015                | 0484                       | 34955                 | 2769         |                                |                                       | 14873             |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | STO          | 1109                | 0463                 | 3497                       | 2771                  | 0005102      | 1140                           | 14877                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
| 190                         | STO          | 1200                | 0440                 | 3497                       | 2774                  | 0004874      | 1150                           | 14884                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | STO          | 1300                | 0422                 | 3497                       | 2776                  | 0004754      | 1238                           | 14893                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | STO          | 1400                | 0410                 | 3497                       | 2773                  | 0004607      | 1285                           | 14905                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
| 190                         | STO          | 1500                | 0404                 | 3497                       | 2773                  | 0004607      | 1332                           | 14915                                 |                   |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |
|                             | ORS          | STO                 | 1518                 | 0404                       | 34974                 | 2778         |                                |                                       | 14922             |                     |                                 |                               |                                 |                                 |                                   |                      |                |     |                           |



TABLE XIII.—Continued

| REFERENCE                    |               | SHIP<br>CODE | LATITUDE<br>°        | LONGITUDE<br>° | MARS<br>SQUARE | STATION TIME  |                               |   |                   | YEAR                | ORIGINATOR'S                    |                         | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPLE   | WAVE<br>OBSERVATIONS             |     |                 | WEA-<br>THER<br>CODE | CLOUD<br>CODES |      | NODC<br>STATION<br>NUMBER |
|------------------------------|---------------|--------------|----------------------|----------------|----------------|---------------|-------------------------------|---|-------------------|---------------------|---------------------------------|-------------------------|---------------------------------|---------------------------------|----------------------------------|-----|-----------------|----------------------|----------------|------|---------------------------|
| CITY<br>CODE                 | IO<br>NO.     |              |                      |                |                | CRUISE<br>NO. | STATION<br>NUMBER             | MO  | DAY               |                     | HR./10                          | DIR.                    |                                 |                                 | PER<br>SEC                       | STA |                 |                      |                |      |                           |
| 311316                       | CD            |              | 4414 N               | 04118 W        | 149 41         | 03 15 13      | 1958                          | 022   | 009               |                     |                                 | 4499                    |                                 | 19                              | 5                                | 3   | X1              | 3 6                  |                | 0009 |                           |
|                              |               |              |                      |                |                |               |                               |   |                   |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
| WATER                        |               | WIND         |                      | BARO-<br>METER |                | AIR TEMP. °C  |                               | VIS.  |                   | NO. OF<br>DEPTHS    |                                 | SPECIAL<br>OBSERVATIONS |                                 |                                 |                                  |     |                 |                      |                |      |                           |
| COLOR<br>CODE                | TRANS.<br>(m) | DIR.         | SPEED<br>OF<br>FORCE | DRY<br>BULB    | WET<br>BULB    | DRY<br>BULB   | WET<br>BULB                   | CODE  | CODE              | CODE                | CODE                            |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
|                              |               |              | 05                   | 510            | 173            | 104           | 172                           | 7   | 21                |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
| MEASURING<br>TIME<br>HR 1/10 | CARD<br>NO.   | CARD<br>TYPE | DEPTH (m)            | T °C           | S ‰            | SIGMA-T       | SPECIFIC VOLUME<br>ANOMALY-20 | $\Sigma \Delta D$<br>OBS. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>µg - ml/l | TOTAL-P<br>µg - ml/l    | NO <sub>3</sub> -N<br>µg - ml/l | NO <sub>3</sub> -N<br>µg - ml/l | SiO <sub>2</sub> -S<br>µg - ml/l | pH  | CO <sub>2</sub> |                      |                |      |                           |
| 134                          |               | STO          | 0000                 | 1875           | 3504           | 2513          | 0028332                       | 0000  | 15137             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
|                              |               | DBS          | 0000                 | 1875           | 35041          | 2513          |                               |   | 15187             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
|                              |               | STO          | 0010                 | 1874           | 3513           | 2514          | 0027831                       | 0028  | 15191             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
| 134                          |               | STO          | 0020                 | 1863           | 3525           | 2528          | 0027113                       | 0055  | 15195             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
|                              |               | DBS          | 0024                 | 1885           | 35314          | 2532          |                               |   | 15197             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
|                              |               | STO          | 0030                 | 1756           | 3543           | 2567          | 0023441                       | 0030  | 15175             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
| 134                          |               | STO          | 0050                 | 1595           | 3585           | 2643          | 0016201                       | 0120  | 15122             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
|                              |               | DBS          | 0074                 | 1595           | 35847          | 2643          |                               |   | 15122             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
|                              |               | STO          | 0075                 | 1544           | 35922          | 2660          |                               |   | 15111             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
| 134                          |               | STO          | 0100                 | 1541           | 3592           | 2661          | 0014625                       | 0159  | 15110             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
|                              |               | DBS          | 0100                 | 1477           | 3592           | 2675          | 0013350                       | 0194  | 15094             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
|                              |               | STO          | 0125                 | 1477           | 35920          | 2675          |                               |   | 15094             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
| 134                          |               | STO          | 0150                 | 1450           | 3592           | 2681          | 0012875                       | 0227  | 15090             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
|                              |               | DBS          | 0150                 | 1434           | 3592           | 2684          | 0012639                       | 0258  | 15089             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
|                              |               | STO          | 0200                 | 1434           | 35917          | 2684          |                               |   | 15089             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
| 134                          |               | DBS          | T0200                | 1438           | 3536           | 2686          | 0012562                       | 0321  | 15099             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
|                              |               | STO          | 0250                 | 1438           | 35553          | 2686          |                               |   | 15099             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
|                              |               | STO          | 0300                 | 1385           | 3564           | 2689          | 0012480                       | 0384  | 15088             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
| 134                          |               | DBS          | 0301                 | 1347           | 3577           | 2691          | 0012396                       | 0446  | 15083             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
|                              |               | STO          | 0400                 | 1346           | 35764          | 2691          |                               |   | 15083             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
|                              |               | DBS          | T0401                | 1318           | 3575           | 2636          | 0012204                       | 0569  | 15090             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
| 134                          |               | STO          | 0500                 | 1317           | 35749          | 2636          |                               |   | 15090             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
|                              |               | DBS          | 0502                 | 1224           | 3557           | 2700          | 0011944                       | 0690  | 15072             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
|                              |               | STO          | 0600                 | 1221           | 35565          | 2701          |                               |   | 15071             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
| 134                          |               | DBS          | T0600                | 1032           | 3528           | 2713          | 0010774                       | 0804  | 15018             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
|                              |               | STO          | 0700                 | 1032           | 35277          | 2713          |                               |   | 15018             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
|                              |               | STO          | 0700                 | 0727           | 3518           | 2754          | 0006725                       | 0891  | 14919             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
| 134                          |               | DBS          | 0800                 | 0533           | 3509           | 2773          | 0004815                       | 0949  | 14859             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
|                              |               | STO          | 0900                 | 0535           |                |               |                               |   |                   |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
|                              |               | STO          | 1000                 | 0523           | 3503           | 2769          | 0005228                       | 0999  | 14868             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
| 134                          |               | DBS          | T1002                | 0509           | 3498           | 2767          | 0005538                       | 1053  | 14879             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
|                              |               | STO          | 1100                 | 0509           | 34973          | 2767          |                               |   | 14879             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
|                              |               | STO          | 1100                 | 0444           | 3498           | 2769          | 0005446                       | 1108  | 14889             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
| 134                          |               | STO          | 1200                 | 0478           | 3498           | 2771          | 0005337                       | 1162  | 14900             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
|                              |               | STO          | 1300                 | 0462           | 3498           | 2772          | 0005229                       | 1214  | 14910             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
|                              |               | STO          | 1400                 | 0446           | 3498           | 2774          | 0005103                       | 1266  | 14920             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
| 134                          |               | STO          | 1500                 | 0429           | 3498           | 2776          | 0004976                       | 1317  | 14930             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
|                              |               | DBS          | T1508                | 0428           | 34981          | 2776          |                               |   | 14931             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
|                              | 168           |              | DBS                  | T1738          | 0389           | 34954         | 2778                          |   |                   | 14953               |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
|                              |               | STO          | 1750                 | 0384           | 3495           | 2778          | 0004848                       | 1439  | 14955             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
|                              |               | STO          | 2000                 | 0377           | 3496           | 2780          | 0004875                       | 1561  | 14992             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
| 168                          |               | DBS          | T2249                | 0362           | 34960          | 2781          |                               |   | 15028             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
|                              |               | STO          | 2500                 | 0341           | 3494           | 2782          | 0004846                       | 1804  | 15062             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
|                              |               | STO          | 2754                 | 0321           | 34932          | 2783          |                               |   | 15097             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
| 168                          |               | DBS          | 3000                 | 0301           | 3493           | 2785          | 0004673                       | 2042  | 15132             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
|                              |               | DBS          | T3260                | 0282           | 34924          | 2786          |                               |   | 15168             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
|                              | 168           |              | DBS                  | 3768           | 0248           | 34899         | 2787                          |   |                   | 15243               |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
|                              |               | STO          | 4000                 | 0239           | 3489           | 2788          | 0004600                       | 2499  | 15279             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
|                              |               | DBS          | 4105                 | 0236           | 34891          | 2788          |                               |   | 15279             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |
| 168                          |               | DBS          | T4211                | 0234           | 34894          | 2788          |                               |   | 15315             |                     |                                 |                         |                                 |                                 |                                  |     |                 |                      |                |      |                           |



TABLE XIII.—Continued

| REFERENCE<br>CRUISE NO.<br>CITY CODE | SHIP<br>CODE | LATITUDE<br>° 1/10 | LONGITUDE<br>° 1/10 | MOON<br>PHASE | MARSDEN<br>SQUARE |         | STATION TIME<br>(GMT) |                                 | YEAR         | ORIGINATOR'S    |                   | DEPTH<br>TO<br>BOTTOM | MAX.<br>DEPTH<br>OF<br>SAMPLE | WAVE<br>OBSERVATIONS            |                      |                                 | SEA-<br>THER<br>CODE            | CLOUD<br>CODES                    | NODC<br>STATION<br>NUMBER |      |
|--------------------------------------|--------------|--------------------|---------------------|---------------|-------------------|---------|-----------------------|---------------------------------|--------------|-----------------|-------------------|-----------------------|-------------------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|---------------------------|------|
|                                      |              |                    |                     |               | 10'               | 1"      | MO                    | DAY                             |              | HR.             | MIN.              |                       |                               | CRUISE<br>NO.                   | STATION<br>NUMBER    | DIR                             |                                 |                                   |                           | HGT  |
| 311315                               | C7           | 4405 N             | 04745 W             | J             | 145               | 47      | 05                    | 31                              | 177          | 1968            | 022               | 010                   | 4545                          | 23                              | 7                    | 4                               | 15                              | 6                                 | 7                         | 0010 |
|                                      |              |                    |                     |               | WATER             |         | WIND                  |                                 | AIR TEMP. °C |                 |                   |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |
|                                      |              |                    |                     |               | COLOR             |         | TRANS.                |                                 | DIL.         |                 | SPEED             |                       | BARO-                         |                                 | METER                |                                 | DRY                             |                                   | WET                       |      |
|                                      |              |                    |                     |               | UNIT              |         | CM                    |                                 | L            |                 | M/S               |                       | MMHG                          |                                 | INCHES               |                                 | BULB                            |                                   | BULB                      |      |
|                                      |              |                    |                     |               |                   |         |                       |                                 |              |                 | VIB.              |                       | NO.                           |                                 | OBS.                 |                                 | DEPTHS                          |                                   | SPECIAL                   |      |
|                                      |              |                    |                     |               |                   |         |                       |                                 |              |                 |                   |                       |                               |                                 |                      |                                 |                                 |                                   | OBSERVATIONS              |      |
|                                      |              |                    |                     |               |                   |         |                       |                                 |              |                 |                   |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |
| MESSNGR<br>TIME                      | CAST<br>NO.  | CARD<br>TYPE       | DEPTH (m)           | T °C          | S ‰               | SIGMA-T |                       | SPECIFIC VOLUME<br>ANOMALY-100° |              | Σ Δ D<br>DTN. M | SOUND<br>VELOCITY |                       | O <sub>2</sub> ml/l           | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>2</sub> -N<br>μg - ml/l | SIO <sub>4</sub> -Si<br>μg - ml/l | pH                        | COR. |
|                                      |              | STD                | 0000                | 15.24         | 35.44             | 2593    |                       | 0020344                         |              | 0000            | 15117             |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |
| 177                                  |              | DBS                | 0000                | 15.24         | 35.44             | 2593    |                       |                                 |              |                 | 15117             |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |
|                                      |              | STD                | 0010                | 16.23         | 35.45             | 2593    |                       | 0020359                         |              | 0020            | 15118             |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |
|                                      |              | STD                | 0020                | 16.21         | 35.44             | 2593    |                       | 0020412                         |              | 0040            | 15119             |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |
| 177                                  |              | DBS                | 0024                | 16.21         | 35.44             | 2593    |                       |                                 |              |                 | 15120             |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |
|                                      |              | STD                | 0030                | 15.7          | 35.47             | 2613    |                       | 001+057                         |              | 0060            | 15116             |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |
| 177                                  |              | DBS                | 0047                | 15.44         | 35.75             | 2644    |                       |                                 |              |                 | 15106             |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |
|                                      |              | STD                | 0050                | 15.46         | 35.76             | 2647    |                       | 0015459                         |              | 0055            | 15106             |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |
| 177                                  |              | DBS                | 0073                | 15.15         | 35.70             | 2662    |                       |                                 |              |                 | 15103             |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |
|                                      |              | STD                | 0075                | 15.21         | 35.69             | 2659    |                       | 0014469                         |              | 0133            | 15104             |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |
| 177                                  |              | DBS                | 0097                | 15.18         | 35.7              | 2670    |                       |                                 |              |                 | 15110             |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |
|                                      |              | STD                | 0100                | 15.18         | 35.7              | 2670    |                       | 0013841                         |              | 0163            | 15108             |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |
|                                      |              | STD                | 0125                | 14.53         | 35.85             | 2675    |                       | 0013300                         |              | 0202            | 15090             |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |
| 177                                  |              | DBS                | 0145                | 14.13         | 35.80             | 2577    |                       |                                 |              |                 | 15062             |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |
|                                      |              | STD                | 0150                | 14.18         | 35.81             | 2677    |                       | 0013053                         |              | 0235            | 15082             |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |
| 177                                  |              | DBS                | 0155                | 14.10         | 35.83             | 2683    |                       |                                 |              |                 | 15067             |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |
|                                      |              | STD                | 0200                | 14.00         | 35.82             | 2683    |                       | 0012820                         |              | 0300            | 15035             |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |
|                                      |              | STD                | 0250                | 13.07         | 35.2              | 2684    |                       | 0012527                         |              | 0363            | 15060             |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |
| 177                                  |              | DBS                | 0234                | 12.7          | 35.90             | 2592    |                       |                                 |              |                 | 15042             |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |
|                                      |              | STD                | 0300                | 12.31         | 35.4              | 2692    |                       | 0012217                         |              | 0425            | 15040             |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |
| 177                                  |              | DBS                | 0352                | 11.19         | 35.30             | 2702    |                       |                                 |              |                 | 15015             |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |
|                                      |              | STD                | 0400                | 11.06         | 35.32             | 2703    |                       | 0011330                         |              | 0543            | 15011             |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |
| 177                                  |              | DBS                | 0441                | 09.62         | 35.20             | 2719    |                       |                                 |              |                 | 14973             |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |
|                                      |              | STD                | 0500                | 09.49         | 35.17             | 2721    |                       | 0009744                         |              | 0648            | 14970             |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |
| 177                                  |              | DBS                | 0543                | 08.20         | 35.115            | 2735    |                       |                                 |              |                 | 14936             |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |
|                                      |              | STD                | 0600                | 09.11         | 35.11             | 2737    |                       | 0006304                         |              | 0739            | 14933             |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |
|                                      |              | STD                | 0700                | 06.62         | 35.38             | 2751    |                       | 0006957                         |              | 0815            | 14930             |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |
| 177                                  |              | DBS                | 0785                | 06.13         | 35.052            | 2760    |                       |                                 |              |                 | 14886             |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |
|                                      |              | STD                | 0800                | 06.04         | 35.05             | 2761    |                       | 0006049                         |              | 0880            | 14885             |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |
|                                      |              | STD                | 0900                | 05.50         | 35.04             | 2767    |                       | 0005533                         |              | 0938            | 14880             |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |
| 177                                  |              | DBS                | 0984                | 05.13         | 35.024            | 2770    |                       |                                 |              |                 | 14877             |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |
|                                      |              | STD                | 1000                | 05.03         | 35.02             | 2771    |                       | 0005143                         |              | 0991            | 14877             |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |
|                                      |              | STD                | 1100                | 04.64         | 35.00             | 2774    |                       | 0004866                         |              | 1041            | 14878             |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |
|                                      |              | STD                | 1200                | 04.33         | 34.99             | 2776    |                       | 0004693                         |              | 1099            | 14881             |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |
|                                      |              | STD                | 1300                | 04.10         | 34.97             | 2777    |                       | 0004638                         |              | 1136            | 14882             |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |
|                                      |              | STD                | 1400                | 03.95         | 34.95             | 2777    |                       | 0004688                         |              | 1183            | 14898             |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |
| 177                                  |              | DBS                | 1445                | 03.88         | 34.927            | 2775    |                       |                                 |              |                 | 14908             |                       |                               |                                 |                      |                                 |                                 |                                   |                           |      |

| REFERENCE<br>CITY<br>CODE   | SHIP<br>CODE | LATITUDE<br>° 10' | LONGITUDE<br>° 10' | MO    | DAY    | STATION TIME<br>(GMT) | YEAR                            | ORIGINATOR'S                          |                    | DEPTH TO<br>BOTTOM  | MAX.<br>DEPTH OF<br>SAMPLE      | WAVE<br>OBSERVATIONS |                                 |                                 |                                   | SEA-<br>THIN<br>CODE | CLOUD<br>CODE | HDDC<br>STATION<br>NUMBER |      |
|-----------------------------|--------------|-------------------|--------------------|-------|--------|-----------------------|---------------------------------|---------------------------------------|--------------------|---------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|----------------------|---------------|---------------------------|------|
|                             |              |                   |                    |       |        |                       |                                 | CRUISE<br>NO.                         | STATION<br>NUMBER  |                     |                                 | DIR                  | HGT                             | PER                             | TRA                               |                      |               |                           |      |
| 311316                      | CO           | 4355 N            | 04106 W            | 1969  | 31     | 05                    | 22                              | 12                                    | 1708               | 022                 | 011                             | 4645                 | 33                              | 5                               | 3                                 | 16                   | 0             | 2                         | 0011 |
|                             |              |                   |                    | WATER |        | WIND                  |                                 | AIR TEMP. °C                          |                    | SPEC. OBS.          |                                 | VIS. CODE            |                                 | SPEC. OBSERVATIONS              |                                   |                      |               |                           |      |
|                             |              |                   |                    | COLOR | TRANS. | DIR.                  | SPEED<br>(knots)                | BARO-<br>METER<br>(mb)                | DRY<br>BULB        | WET<br>BULB         |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |
|                             |              |                   |                    |       |        | 17                    | 515                             | 150                                   | 175                | 145                 | 7                               | 14                   |                                 |                                 |                                   |                      |               |                           |      |
| MESSAGE<br>TIME<br>HR 10/15 | CST<br>NO.   | CARD<br>TYPE      | DEPTH (m)          | T °C  | S ‰    | SIGMA-T               | SPECIFIC VOLUME<br>AND SALINITY | S Δ D<br>DTN, M.<br>x 10 <sup>3</sup> | TURBID<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>2</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH                   | CHLOROPHYLL   |                           |      |
|                             |              | STD               | 0000               | 1653  | 3503   | 2500                  | 0023430                         | 0000                                  | 15124              |                     |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |
|                             |              | DBS               | 0000               | 1655  | 35035  | 2500                  |                                 |                                       | 15124              |                     |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |
| 129                         |              | STD               | 0010               | 1655  | 3516   | 2577                  | 0022429                         | 0022                                  | 15125              |                     |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |
|                             |              | STD               | 0020               | 1650  | 3525   | 2507                  | 0021416                         | 0044                                  | 15127              |                     |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |
|                             |              | DBS               | 0025               | 1648  | 35357  | 2543                  |                                 |                                       | 15123              |                     |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |
| 129                         |              | STD               | 0030               | 1523  | 3511   | 2602                  | 0020031                         | 0005                                  | 15048              |                     |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |
|                             |              | STD               | 0050               | 1174  | 3454   | 2606                  | 0017751                         | 0103                                  | 14975              |                     |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |
|                             |              | DBS               | 0050               | 1194  | 34540  | 2606                  |                                 |                                       | 14975              |                     |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |
| 129                         |              | STD               | 0075               | 1154  | 3477   | 2650                  | 0015624                         | 0145                                  | 14972              |                     |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |
|                             |              | DBS               | 0075               | 1164  | 34770  | 2650                  |                                 |                                       | 14972              |                     |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |
|                             |              | STD               | 0100               | 1017  | 3466   | 2650                  | 0013967                         | 0162                                  | 14922              |                     |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |
| 129                         |              | DBS               | 0101               | 1014  | 34653  | 2650                  |                                 |                                       | 14921              |                     |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |
|                             |              | STD               | 0125               | 1133  | 3503   | 2676                  | 0013245                         | 0216                                  | 14572              |                     |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |
|                             |              | STD               | 0150               | 1210  | 3530   | 2682                  | 0012777                         | 0248                                  | 15006              |                     |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |
| 129                         |              | DBS               | 0150               | 1210  | 35277  | 2682                  |                                 |                                       | 15006              |                     |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |
|                             |              | STD               | 0200               | 1221  | 3541   | 2689                  | 0012263                         | 0311                                  | 15020              |                     |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |
| 129                         |              | DBS               | 0201               | 1221  | 35413  | 2689                  |                                 |                                       | 15020              |                     |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |
|                             |              | STD               | 0250               | 1215  | 3533   | 2686                  | 0012422                         | 0373                                  | 15026              |                     |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |
|                             |              | STD               | 0300               | 1175  | 3533   | 2685                  | 0011925                         | 0433                                  | 15020              |                     |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |
|                             |              | DBS               | 0303               | 1171  | 35374  | 2685                  |                                 |                                       | 15019              |                     |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |
|                             |              | STD               | 0400               | 0592  | 3512   | 2710                  | 0010614                         | 0546                                  | 14955              |                     |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |
| 129                         |              | DBS               | 0404               | 0777  | 35117  | 2710                  |                                 |                                       | 14953              |                     |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |
|                             |              | STD               | 0500               | 0926  | 3513   | 2724                  | 0007390                         | 0646                                  | 14959              |                     |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |
| 129                         |              | DBS               | 0506               | 0518  | 35195  | 2726                  |                                 |                                       | 14988              |                     |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |
|                             |              | STD               | 0600               | 0700  | 3443   | 2735                  | 0007483                         | 0733                                  | 14835              |                     |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |
| 129                         |              | DBS               | 0607               | 0648  | 3442   | 2735                  |                                 |                                       | 14841              |                     |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |
|                             |              | STD               | 0700               | 0637  | 3500   | 2752                  | 0006750                         | 0807                                  | 14878              |                     |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |
|                             |              | STD               | 0800               | 0546  | 3534   | 2762                  | 0005577                         | 0670                                  | 14678              |                     |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |
| 129                         |              | DBS               | 0810               | 0553  | 35045  | 2763                  |                                 |                                       | 14678              |                     |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |
|                             |              | STD               | 0900               | 0544  | 3503   | 2767                  | 0005485                         | 0927                                  | 14678              |                     |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |
|                             |              | STD               | 1000               | 0505  | 3502   | 2770                  | 0005291                         | 0980                                  | 14678              |                     |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |
| 129                         |              | DBS               | 11017              | 0499  | 35014  | 2771                  |                                 |                                       | 14680              |                     |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |
|                             |              | STD               | 1100               | 0472  | 3500   | 2773                  | 0004942                         | 1031                                  | 14680              |                     |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |
|                             |              | STD               | 1200               | 0443  | 3498   | 2775                  | 0004833                         | 1080                                  | 14685              |                     |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |
|                             |              | STD               | 1300               | 0420  | 3497   | 2776                  | 0004756                         | 1128                                  | 14692              |                     |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |
|                             |              | STD               | 1400               | 0402  | 3495   | 2777                  | 0004738                         | 1176                                  | 14901              |                     |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |
|                             |              | STD               | 1500               | 0359  | 3493   | 2777                  | 0004782                         | 1225                                  | 14912              |                     |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |
| 129                         |              | DBS               | 111515             | 0367  | 34933  | 2777                  |                                 |                                       | 14915              |                     |                                 |                      |                                 |                                 |                                   |                      |               |                           |      |



TABLE XIII.—Continued

| REFERENCE<br>CRUISE<br>NO. | SHIP<br>CODE | LATITUDE<br>N<br>1/10 | LONGITUDE<br>W<br>1/10 | MARS<br>SQUARE<br>NO. | STATION TIME   |         |                                      | YEAR                                  | ORIGINATOR'S      |                     | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPL'S | WAVE<br>OBSERVATIONS            |                                 |                                   | WEA-<br>THER<br>CODE    | CLOUD<br>CODES |      | NODC<br>STATION<br>NUMBER |
|----------------------------|--------------|-----------------------|------------------------|-----------------------|----------------|---------|--------------------------------------|---------------------------------------|-------------------|---------------------|---------------------------------|--------------------------------|---------------------------------|---------------------------------|-----------------------------------|-------------------------|----------------|------|---------------------------|
|                            |              |                       |                        |                       | HR             | MIN     | SEC                                  |                                       | CRUISE<br>NO.     | STATION<br>NUMBER   |                                 |                                | SEA                             |                                 |                                   |                         | TYPE           | AMT  |                           |
|                            |              |                       |                        |                       | 10"            | 1"      | MO                                   |                                       | DAY               | HELI/10             |                                 |                                | DIR                             | HGT                             | PER                               |                         | SEA            |      |                           |
| 311316                     | C0           | 4257 N                | 04045 W                | D                     | 149            | 30      | 04 16 3                              | 176                                   | 1958              | 022                 | 042                             | 4545                           | 23                              | 7                               | 4                                 | X8                      | 6              | 7    | 0012                      |
|                            |              |                       |                        |                       |                |         |                                      |                                       |                   |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
|                            |              | WATER                 |                        |                       | WIND           |         |                                      | BARO-<br>METER                        |                   | AIR TEMP. °C        |                                 | VIS.                           |                                 | NO. OBS.<br>DEPTHS              |                                   | SPECIAL<br>OBSERVATIONS |                |      |                           |
|                            |              | COLOR<br>CODE         | TRANS.<br>(m)          | DIR.                  | SPEED<br>(kts) | MBAR    | MMHG                                 | WET<br>BULB                           | WET<br>BULB       | CODE                | CODE                            | CODE                           | CODE                            | CODE                            | CODE                              | CODE                    | CODE           | CODE | CODE                      |
|                            |              | 25                    | 514                    | 007                   | 100            | 150     | 7 <td>14</td> <td colspan="11"></td> | 14                                    |                   |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
|                            |              |                       |                        |                       |                |         |                                      |                                       |                   |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
| MESSAGE<br>TIME<br>HR 1/10 | CASE<br>NO.  | CARD<br>TYPE          | DEPTH (m)              | T °C                  | S ‰            | SIGMA-T | SPECIFIC VOLUME<br>ANOMALY-20°       | S.D.<br>D.T.M. M<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>2</sub> -P<br>µg - ml/l | TOTAL-P<br>µg - ml/l           | NO <sub>2</sub> -N<br>µg - ml/l | NO <sub>3</sub> -N<br>µg - ml/l | SiO <sub>2</sub> -Si<br>µg - ml/l | pH                      | STATION        |      |                           |
| 175                        |              | STS                   | 0000                   | 1040                  | 3516           | 2578    | 0022243                              | 0000                                  | 15121             |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
|                            |              | STS                   | 0000                   | 1040                  | 3515           | 2578    |                                      |                                       | 15121             |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
|                            |              | STS                   | 0010                   | 1030                  | 3520           | 2585    | 0021049                              | 0021                                  | 15116             |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
|                            |              | STS                   | 0020                   | 1009                  | 3523           | 2593    | 0020928                              | 0043                                  | 15114             |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
| 176                        |              | STS                   | 0025                   | 1006                  | 35254          | 2597    |                                      |                                       | 15111             |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
|                            |              | STS                   | 0030                   | 1572                  | 3540           | 2614    | 0010774                              | 0063                                  | 15106             |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
|                            |              | STS                   | 0050                   | 1504                  | 3581           | 2660    | 0014671                              | 0056                                  | 15095             |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
| 176                        |              | STS                   | 0041                   | 1507                  | 35925          | 2661    |                                      |                                       | 15095             |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
|                            |              | STS                   | 0075                   | 1502                  | 3594           | 2671    | 0013635                              | 0132                                  | 15039             |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
| 176                        |              | STS                   | 0075                   | 1502                  | 3594           | 2672    |                                      |                                       | 15049             |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
|                            |              | STS                   | 0100                   | 1497                  | 3600           | 2677    | 0015205                              | 0160                                  | 15122             |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
| 176                        |              | STS                   | 0102                   | 1496                  | 36000          | 2677    |                                      |                                       | 15132             |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
|                            |              | STS                   | 0125                   | 1466                  | 3596           | 2680    | 0012114                              | 0190                                  | 15095             |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
|                            |              | STS                   | 0150                   | 1436                  | 3591           | 2683    | 0012711                              | 0230                                  | 15049             |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
| 176                        |              | STS                   | 0151                   | 1435                  | 35911          | 2683    |                                      |                                       | 15049             |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
|                            |              | STS                   | 0200                   | 1384                  | 3580           | 2686    | 0012580                              | 0293                                  | 15079             |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
| 176                        |              | STS                   | 0202                   | 1382                  | 35801          | 2686    |                                      |                                       | 15079             |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
|                            |              | STS                   | 0250                   | 1343                  | 3575           | 2690    | 0012295                              | 0355                                  | 15073             |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
|                            |              | STS                   | 0300                   | 1281                  | 3566           | 2696    | 0011864                              | 0416                                  | 15060             |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
| 176                        |              | STS                   | 0303                   | 1277                  | 35652          | 2696    |                                      |                                       | 15059             |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
|                            |              | STS                   | 0400                   | 1092                  | 3536           | 2709    | 0010764                              | 0529                                  | 15007             |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
| 176                        |              | STS                   | T0408                  | 1078                  | 35344          | 2710    |                                      |                                       | 15003             |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
|                            |              | STS                   | 0500                   | 0923                  | 3517           | 2724    | 0009459                              | 0630                                  | 14960             |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
| 176                        |              | STS                   | 0505                   | 0915                  | 35108          | 2724    |                                      |                                       | 14958             |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
|                            |              | STS                   | 0600                   | 0783                  | 3509           | 2742    | 0007743                              | 0716                                  | 14915             |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
| 175                        |              | STS                   | T0502                  | 0760                  | 35038          | 2742    |                                      |                                       | 14914             |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
|                            |              | STS                   | 0700                   | 0644                  | 3504           | 2755    | 0000509                              | 0787                                  | 14884             |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
|                            |              | STS                   | 0800                   | 0557                  | 3501           | 2764    | 0005686                              | 0848                                  | 14865             |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
| 176                        |              | STS                   | 0808                   | 0551                  | 35009          | 2764    |                                      |                                       | 14864             |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
|                            |              | STS                   | 0900                   | 0513                  | 3500           | 2768    | 0005342                              | 0904                                  | 14864             |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
|                            |              | STS                   | 1000                   | 0473                  | 3498           | 2771    | 0005084                              | 0950                                  | 14866             |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
| 176                        |              | STS                   | T1005                  | 0475                  | 34983          | 2771    |                                      |                                       | 14866             |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
|                            |              | STS                   | 1100                   | 0448                  | 3497           | 2773    | 0004895                              | 1006                                  | 14870             |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
|                            |              | STS                   | 1200                   | 0424                  | 3496           | 2775    | 0004770                              | 1054                                  | 14877             |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
|                            |              | STS                   | 1300                   | 0406                  | 3495           | 2776    | 0004705                              | 1101                                  | 14886             |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
|                            |              | STS                   | 1400                   | 0384                  | 3494           | 2777    | 0004702                              | 1148                                  | 14897             |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
|                            |              | STS                   | 1500                   | 0367                  | 3493           | 2777    | 0004760                              | 1196                                  | 14911             |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |
| 175                        |              | STS                   | T1519                  | 0366                  | 34930          | 2777    |                                      |                                       | 14914             |                     |                                 |                                |                                 |                                 |                                   |                         |                |      |                           |

| REFERENCE                  |             | SHIP<br>CODE  | LATITUDE<br>°<br>N/S | LONGITUDE<br>°<br>E/W | MARS<br>SQUARE | STATION TIME<br>(GMT) |                                | YEAR                                  | ORIGINATOR'S      |                     | DEPTH<br>TO<br>BOTTOM           | MAX.<br>DEPTH<br>OF<br>SAMPL'S | WAVE<br>OBSERVATIONS            | WEA-<br>THER<br>CODE            | CLOUD<br>CODES                    | NODC<br>STATION<br>NUMBER |         |
|----------------------------|-------------|---------------|----------------------|-----------------------|----------------|-----------------------|--------------------------------|---------------------------------------|-------------------|---------------------|---------------------------------|--------------------------------|---------------------------------|---------------------------------|-----------------------------------|---------------------------|---------|
| CRUISE<br>NO.              | ID.<br>NO.  |               |                      |                       |                | CRUISE<br>NO.         | STATION<br>NUMBER              |                                       |                   |                     |                                 |                                |                                 |                                 |                                   |                           |         |
| 311316                     | C0          | 4405 N        | 04052 W              | 16 40                 | 04 24 13       | 1968                  | 022                            | 013                                   |                   | 4545                | 24                              | 5                              | 4                               | X6                              | 6                                 | 4                         | 0013    |
|                            |             | WATER         |                      | WIND                  |                | BARO-<br>METER        |                                | AIR TEMP. °C                          |                   | VIS.                |                                 | NO. OBS.<br>DEPTHS             |                                 | SPECIAL<br>OBSERVATIONS         |                                   |                           |         |
|                            |             | COLOR<br>CODE | TRANS.<br>(m)        | DIR.                  | SPEED<br>(kts) | MMHG                  | MMHG                           | WET<br>BULB                           | WET<br>BULB       | CODE                | CODE                            |                                |                                 |                                 |                                   |                           |         |
|                            |             | 26            | 515                  | 070                   | 157            | 126                   | 6                              | 14                                    |                   |                     |                                 |                                |                                 |                                 |                                   |                           |         |
| MESSAGE<br>TIME<br>HR 1/10 | CASE<br>NO. | CARD<br>TYPE  | DEPTH (m)            | T °C                  | S ‰            | SIGMA-T               | SPECIFIC VOLUME<br>ANOMALY-20° | S.D.<br>D.T.M. M<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY | O <sub>2</sub> ml/l | PO <sub>2</sub> -P<br>µg - ml/l | TOTAL-P<br>µg - ml/l           | NO <sub>2</sub> -N<br>µg - ml/l | NO <sub>3</sub> -N<br>µg - ml/l | SiO <sub>2</sub> -Si<br>µg - ml/l | pH                        | STATION |
| 133                        |             | STD           | 0000                 | 1006                  | 3545           | 2610                  | 001253                         | 0000                                  | 15112             |                     |                                 |                                |                                 |                                 |                                   |                           |         |
|                            |             | DBS           | 0000                 | 1006                  | 3544           | 2610                  |                                |                                       | 15112             |                     |                                 |                                |                                 |                                 |                                   |                           |         |
|                            |             | STD           | 0010                 | 1004                  | 3544           | 2610                  | 0019266                        | 0019                                  | 15113             |                     |                                 |                                |                                 |                                 |                                   |                           |         |
| 133                        |             | STD           | 0020                 | 1001                  | 3544           | 2610                  | 0019270                        | 0030                                  | 15114             |                     |                                 |                                |                                 |                                 |                                   |                           |         |
|                            |             | DBS           | 0025                 | 1001                  | 35440          | 2610                  |                                |                                       | 15115             |                     |                                 |                                |                                 |                                 |                                   |                           |         |
|                            |             | STD           | 0030                 | 1001                  | 3555           | 2622                  | 0010157                        | 0057                                  | 15113             |                     |                                 |                                |                                 |                                 |                                   |                           |         |
| 133                        |             | STD           | 0050                 | 1557                  | 3543           | 2659                  | 0015082                        | 0090                                  | 15111             |                     |                                 |                                |                                 |                                 |                                   |                           |         |
|                            |             | DBS           | 0051                 | 1556                  | 35507          | 2656                  |                                |                                       | 15111             |                     |                                 |                                |                                 |                                 |                                   |                           |         |
|                            |             | STD           | 0075                 | 1557                  | 3607           | 2667                  | 0013645                        | 0126                                  | 15117             |                     |                                 |                                |                                 |                                 |                                   |                           |         |
| 133                        |             | DBS           | 0075                 | 1557                  | 36069          | 2667                  |                                |                                       | 15117             |                     |                                 |                                |                                 |                                 |                                   |                           |         |
|                            |             | STD           | 0100                 | 1505                  | 3545           | 2674                  | 0013424                        | 0100                                  | 15104             |                     |                                 |                                |                                 |                                 |                                   |                           |         |
|                            |             | DBS           | 0101                 | 1504                  | 35492          | 2674                  |                                |                                       | 15104             |                     |                                 |                                |                                 |                                 |                                   |                           |         |
| 133                        |             | STD           | 0125                 | 1404                  | 3543           | 2677                  | 0013057                        | 0154                                  | 15094             |                     |                                 |                                |                                 |                                 |                                   |                           |         |
|                            |             | STD           | 0140                 | 1425                  | 3587           | 2682                  | 0012704                        | 0220                                  | 15085             |                     |                                 |                                |                                 |                                 |                                   |                           |         |
|                            |             | DBS           | 0140                 | 1425                  | 35871          | 2682                  |                                |                                       | 15085             |                     |                                 |                                |                                 |                                 |                                   |                           |         |
| 133                        |             | STD           | 0200                 | 1356                  | 3575           | 2693                  | 001420                         | 0269                                  | 15069             |                     |                                 |                                |                                 |                                 |                                   |                           |         |
|                            |             | DBS           | T0203                | 1357                  | 35742          | 2694                  |                                |                                       | 15069             |                     |                                 |                                |                                 |                                 |                                   |                           |         |
|                            |             | STD           | 0250                 | 1221                  | 3573           | 2693                  | 0014011                        | 0350                                  | 15066             |                     |                                 |                                |                                 |                                 |                                   |                           |         |
| 133                        |             | STD           | 0300                 | 1204                  | 3566           | 2697                  | 0011542                        | 0407                                  | 15054             |                     |                                 |                                |                                 |                                 |                                   |                           |         |
|                            |             | DBS           | 0301                 | 1203                  | 35658          | 2695                  |                                |                                       | 15054             |                     |                                 |                                |                                 |                                 |                                   |                           |         |
|                            |             | STD           | T0305                | 1044                  | 35553          | 2711                  |                                |                                       | 15004             |                     |                                 |                                |                                 |                                 |                                   |                           |         |
| 133                        |             | STD           | 0400                 | 1075                  | 3555           | 2711                  | 0010535                        | 0513                                  | 15001             |                     |                                 |                                |                                 |                                 |                                   |                           |         |
|                            |             | DBS           | 0500                 | 0875                  | 3513           | 2723                  | 0009015                        | 0617                                  | 14941             |                     |                                 |                                |                                 |                                 |                                   |                           |         |
|                            |             | STD           | 0500                 | 0875                  | 35130          | 2723                  |                                |                                       | 14941             |                     |                                 |                                |                                 |                                 |                                   |                           |         |
| 133                        |             | STD           | 0600                 | 0723                  | 3501           | 2742                  | 0007715                        | 0701                                  | 14838             |                     |                                 |                                |                                 |                                 |                                   |                           |         |
|                            |             | DBS           | T0601                | 0722                  | 35012          | 2742                  |                                |                                       | 14838             |                     |                                 |                                |                                 |                                 |                                   |                           |         |
|                            |             | STD           | 0700                 | 0643                  | 3504           | 2755                  | 0000525                        | 0772                                  | 14834             |                     |                                 |                                |                                 |                                 |                                   |                           |         |
| 133                        |             | STD           | 0800                 | 0578                  | 3504           | 2764                  | 0005653                        | 0833                                  | 14873             |                     |                                 |                                |                                 |                                 |                                   |                           |         |
|                            |             | DBS           | 0800                 | 0575                  | 35044          | 2764                  |                                |                                       | 14873             |                     |                                 |                                |                                 |                                 |                                   |                           |         |
|                            |             | STD           | 0900                 | 0521                  | 3501           | 2766                  | 0005341                        | 0889                                  | 14860             |                     |                                 |                                |                                 |                                 |                                   |                           |         |
| 133                        |             | DBS           | T0905                | 0477                  | 3494           | 2771                  |                                |                                       | 14860             |                     |                                 |                                |                                 |                                 |                                   |                           |         |
|                            |             | STD           | 1000                 | 0477                  | 3495           | 2771                  | 0005072                        | 0940                                  | 14860             |                     |                                 |                                |                                 |                                 |                                   |                           |         |
|                            |             | STD           | 1100                 | 0440                  | 3490           | 2773                  | 0004860                        | 0990                                  | 14867             |                     |                                 |                                |                                 |                                 |                                   |                           |         |
| 133                        |             | STD           | 1200                 | 0413                  | 3484           | 2775                  | 0004737                        | 1038                                  | 14872             |                     |                                 |                                |                                 |                                 |                                   |                           |         |
|                            |             | STD           | 1300                 | 0393                  | 3473           | 2776                  | 0004666                        | 1085                                  | 14881             |                     |                                 |                                |                                 |                                 |                                   |                           |         |
|                            |             | STD           | 1400                 | 0362                  | 3463           | 2777                  | 0004667                        | 1132                                  | 14893             |                     |                                 |                                |                                 |                                 |                                   |                           |         |
| 133                        |             | STD           | 1500                 | 0341                  | 3453           | 2777                  | 0004760                        | 1179                                  | 14909             |                     |                                 |                                |                                 |                                 |                                   |                           |         |
|                            |             | DBS           | T1500                | 0341                  | 34527          | 2777                  |                                |                                       | 14909             |                     |                                 |                                |                                 |                                 |                                   |                           |         |



TABLE XIII.—Continued

| REFERENCE<br>CTRY<br>CODE   | SHIP<br>ID.<br>NO. | SNIP<br>CODE | LATITUDE<br>°        | LONGITUDE<br>°             | MARSSEN<br>SQUARE<br>°   | STATION TIME<br>(GMT) |  | YEAR                                 | ORIGINATOR'S       |                         | DEFIN TO<br>BOTTOM              | MAX.<br>DEPTH<br>M   | WAVE<br>OBSERVATIONS            |                                 |                                   | WEA-<br>THER<br>CODE | CLOUD<br>CODES | NODC<br>STATION<br>NUMBER |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
|---|--------------------|--------------|----------------------|----------------------------|--------------------------|-----------------------|--|--------------------------------------|--------------------|-------------------------|---------------------------------|----------------------|---------------------------------|---------------------------------|-----------------------------------|----------------------|----------------|---------------------------|-------------------|------|------|------|-------|---------|------|----------------------|----------------------------|--------------------------|--------------|--|-------------|--------------------|-------------------------|-----|-----|----|-----|-----|-----|-----|---|----|--|--|--|--|--|
|   |                    |              |                      |                            |                          | 10'                   | 1'   |                                      | MO.                | DAY                     |                                 |                      | HR.                             | MIN.                            | CRUISE<br>NO.                     |                      |                |                           | STATION<br>NUMBER | DIR. | NGHT | PER  | SEA   |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
|   |                    |              |                      |                            |                          |                       |  |                                      |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       | 0'      | 0'   |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
| 311316  | C7                 |              | 4353 N               | 04100 W                    | 145                      | 31                    | 04   | 25                                   | 134                | 2755                    | 022                             | 014                  | 4645                            | 2                               | 28                                | 5                    | 3              | X1                        | 0                 | 6    |      | 0014 |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
| <table><tr><th rowspan="2">COLOR</th><th rowspan="2">TRANSM.</th><th rowspan="2">DIR.</th><th rowspan="2">SPEED<br/>OR<br/>FORCE</th><th rowspan="2">WIND<br/>DIRECTION<br/>(DEG)</th><th rowspan="2">WIND<br/>SPEED<br/>(KNOTS)</th><th colspan="2">AIR TEMP. °C</th><th rowspan="2">WIL<br/>CODE</th><th rowspan="2">NO.<br/>OF<br/>DEPTH</th><th rowspan="2">SPECIAL<br/>OBSERVATIONS</th></tr><tr><th>WET</th><th>WET</th></tr><tr><td>13</td><td>535</td><td>183</td><td>144</td><td>110</td><td>7</td><td>14</td><td></td><td></td><td></td><td></td><td></td></tr></table> |                    |              |                      |                            |                          |                       |  |                                      |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      | COLOR | TRANSM. | DIR. | SPEED<br>OR<br>FORCE | WIND<br>DIRECTION<br>(DEG) | WIND<br>SPEED<br>(KNOTS) | AIR TEMP. °C |  | WIL<br>CODE | NO.<br>OF<br>DEPTH | SPECIAL<br>OBSERVATIONS | WET | WET | 13 | 535 | 183 | 144 | 110 | 7 | 14 |  |  |  |  |  |
| COLOR   | TRANSM.            | DIR.         | SPEED<br>OR<br>FORCE | WIND<br>DIRECTION<br>(DEG) | WIND<br>SPEED<br>(KNOTS) | AIR TEMP. °C          |  | WIL<br>CODE                          | NO.<br>OF<br>DEPTH | SPECIAL<br>OBSERVATIONS |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
|   |                    |              |                      |                            |                          | WET                   | WET  |                                      |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
| 13  | 535                | 183          | 144                  | 110                        | 7                        | 14                    |  |                                      |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
| MISSING<br>TIME<br>HR 1/10  | CAST<br>NO.        | CARD<br>TYPE | DEPTH<br>m           | T °C                       | S ‰                      | SIGMA-T               | SPECIFIC<br>VOLUME<br>ANOMALY-σ <sub>t</sub> | S ΔD<br>DYN. M.<br>x 10 <sup>3</sup> | SOUND<br>VELOCITY  | O <sub>2</sub> ml/l     | PO <sub>4</sub> -P<br>μg - ml/l | TOTAL-P<br>μg - ml/l | NO <sub>3</sub> -N<br>μg - ml/l | NO <sub>2</sub> -N<br>μg - ml/l | SiO <sub>4</sub> -Si<br>μg - ml/l | pH                   | S<br>C         |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
| 134   | STD                | 0903         | 1616                 | 3568                       | 2610                     | 001235                | 0000   | 15110                                |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
|   | 395                | 0909         | 1616                 | 3563                       | 2610                     |                       |  | 15116                                |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
|   | STD                | 0910         | 1626                 | 3557                       | 2614                     | 0013841               | 0015   | 15122                                |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
| 134   | STD                | 0920         | 1639                 | 3550                       | 2618                     | 0018911               | 0037   | 15128                                |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
|   | 095                | 0925         | 1645                 | 3539                       | 2629                     |                       |  | 15131                                |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
|   | STD                | 0930         | 1617                 | 3574                       | 2627                     | 0017465               | 0055   | 15124                                |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
| 134   | STD                | 0950         | 1538                 | 3587                       | 2658                     | 0014836               | 0088   | 15104                                |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
|   | 095                | 0951         | 1533                 | 3576                       | 2659                     |                       |  | 15103                                |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
|   | STD                | 0975         | 1504                 | 3595                       | 2671                     | 0013618               | 0123   | 15039                                |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
| 134   | 095                | 0975         | 1504                 | 3595                       | 2671                     |                       |  | 15099                                |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
|   | STD                | 0100         | 1448                 | 3598                       | 2678                     | 0013077               | 0150   | 15098                                |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
|   | 095                | 0101         | 1445                 | 3584                       | 2678                     |                       |  | 15098                                |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
| 134   | STD                | 0125         | 1452                 | 3592                       | 2681                     | 0012875               | 0189   | 15090                                |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
|   | STD                | 0150         | 1420                 | 3587                       | 2683                     | 0012707               | 0221   | 15084                                |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
|   | 095                | 0150         | 1420                 | 3588                       | 2683                     |                       |  | 15084                                |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
| 134   | STD                | 0200         | 1367                 | 3578                       | 2688                     | 0012430               | 0284   | 15073                                |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
|   | 095                | 0200         | 1365                 | 3577                       | 2688                     |                       |  | 15072                                |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
|   | STD                | 0250         | 1319                 | 3571                       | 2692                     | 0012118               | 0345   | 15065                                |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
| 134   | STD                | 0300         | 1265                 | 3563                       | 2697                     | 0011777               | 0405   | 15054                                |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
|   | 095                | 0300         | 1265                 | 3562                       | 2697                     |                       |  | 15054                                |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
|   | STD                | 0350         | 1137                 | 3542                       | 2706                     |                       |  | 15024                                |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
| 134   | STD                | 0400         | 1135                 | 3543                       | 2706                     | 0011074               | 0519   | 15023                                |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
|   | 095                | 0450         | 0943                 | 35172                      | 2720                     |                       |  | 14907                                |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
|   | STD                | 0500         | 0941                 | 3517                       | 2720                     | 0009732               | 0623   | 14907                                |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
| 134   | 095                | 0500         | 0793                 | 3506                       | 2737                     |                       |  | 14926                                |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
|   | STD                | 0600         | 0742                 | 3509                       | 2737                     | 0008209               | 0713   | 14926                                |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
|   | STD                | 0700         | 0646                 | 3507                       | 2752                     | 0005901               | 0789   | 14900                                |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
| 134   | 095                | 0755         | 0547                 | 3502                       | 2761                     |                       |  | 14881                                |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
|   | STD                | 0800         | 0533                 | 3504                       | 2761                     | 0005966               | 0833   | 14880                                |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
|   | STD                | 0900         | 0519                 | 3499                       | 2767                     | 0005443               | 0910   | 14867                                |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
| 134   | 095                | 0950         | 0465                 | 3460                       | 2771                     |                       |  | 14859                                |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
|   | STD                | 1000         | 0464                 | 3466                       | 2771                     | 0005036               | 0936   | 14860                                |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
|   | STD                | 1100         | 0443                 | 3435                       | 2772                     | 0005037               | 1014   | 14870                                |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
| 134   | STD                | 1200         | 0433                 | 3495                       | 2773                     | 0004948               | 1064   | 14880                                |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
|   | STD                | 1300         | 0417                 | 3434                       | 2774                     | 0004932               | 1113   | 14890                                |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
|   | STD                | 1400         | 0401                 | 3453                       | 2775                     | 0004859               | 1162   | 14901                                |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |
| 134   | 095                | 11479        | 0389                 | 34927                      | 2776                     |                       |  | 14909                                |                    |                         |                                 |                      |                                 |                                 |                                   |                      |                |                           |                   |      |      |      |       |         |      |                      |                            |                          |              |  |             |                    |                         |     |     |    |     |     |     |     |   |    |  |  |  |  |  |















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